

TECHNICAL DATASHEET

Incremental Encoder RI 58-O / RI 58-T



Synchro flange



Clamping flange

- Universal industry standard encoder
- Up to 40 000 steps with 10 000 pulses
- High signal accuracy
- Protection class up to IP67
- Flexible due to many flange and configuration variants
- Suitable for high shock ratings
- Applications: machine tools, CNC axles, packing machines, motors/ drives, injection moulding machines, sawing machines, textile machines
- For EX version, see RX 70-I
- Operating temperature up to 100 °C (RI 58-T)



NUMBER OF PULSES RI 58-O 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 / 230 / **250** / 256 / 300 / 314 / 350 / 360 / 375 / 400 / 460 / 480 / **500** / 512 / 600 / 625 / 635 / 720 / 750 / 900 / **1000** / **1024** / 1200 / **1250** / 1500 / 1600 / 1800 / 2000 / 2048 / **2500** / 3000 / 3480 / **3600** / 3750 / 3968 / 4000 / **4096** / 4800 / **5000** / 5400 / 6000 / 7200 / 7680 / 8000 / 8192 / 9000 / 10000

Other number of pulses on request
 Preferably available versions are printed in bold type.

NUMBER OF PULSES RI 58-T 4 / 5 / 10 / 15 / 20 / 25 / 30 / 35 / 40 / 45 / 50 / 60 / 64 / 70 / 72 / 80 / **100** / 125 / 128 / 144 / 150 / 180 / 200 / 230 / **250** / 256 / 300 / 314 / 350 / 360 / 375 / 400 / 460 / 480 / **500** / 512 / 600 / 625 / 635 / 720 / 750 / 900 / **1000** / **1024** / 1200 / **1250** / 1500 / 1600 / 1800 / 2000 / 2048 / **2500**

Other number of pulses on request
 Preferably available versions are printed in bold type.

TECHNICAL DATA
mechanical

| | |
|---|---|
| Housing diameter | 58 mm |
| Shaft diameter | 6 mm / 6.35 mm / 7 mm / 9.52 mm / 10 mm / 12 mm (Solid shaft) |
| Flange (Mounting of housing) | Synchro flange, Clamping flange, Square flange, Synchro clamping flange |
| Protection class shaft input (EN 60529) | IP64 or IP67 |
| Protection class housing (EN 60529) | IP65 or IP67 |
| Shaft load axial / radial | Ø 6 mm / 6,35 mm: 20 N / 40 N Ø 7 ... 10 mm: 40 N / 60 N Ø 12 mm: 60 N / 80 N |
| Max. speed | max. 10 000 rpm |
| Starting torque typ. | ≤ 0.5 Ncm ≤ 1 Ncm (IP67) |

TECHNICAL DATASHEET

Incremental Encoder RI 58-O / RI 58-T

**TECHNICAL DATA
mechanical (continued)**

| | |
|--|--|
| Moment of inertia | approx. 14 gcm ² (Synchro flange) approx. 20 gcm ² (Clamping flange) |
| Vibration resistance (DIN EN 60068-2-6) | 100 m/s ² (10 ... 2000 Hz) |
| Shock resistance (DIN EN 60068-2-27) | 1000 m/s ² (6 ms) |
| Operating temperature | RI 58-O: -10 °C ... +70 °C RI 58-T: -25 °C ... +100 °C |
| Storage temperature | RI 58-O: -25 °C ... +85 °C RI 58-T: -25 °C ... +100 °C |
| Material housing | Aluminum |
| Weight | approx. 360 g |
| Connection | PVC cable, axial or radial M23 connector (Conin), axial or radial TPE cable, axial or radial M16 (Binder), axial or radial MS, axial oder 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) |
| 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} , $\overline{\text{Alarm}}$ RS422 + Sense (T): A, B, N, \bar{A} , \bar{B} , \bar{N} , Sense Push-pull (K): A, B, N, $\overline{\text{Alarm}}$ Push-pull complementary (I): A, B, N, \bar{A} , \bar{B} , \bar{N} , $\overline{\text{Alarm}}$ |
| Pulse width error | ± max. 25° electrical |
| Number of pulses | 1 ... 10 000 |
| Alarm output | NPN-O.C., max. 5 mA |
| Pulse shape | Square wave |
| Pulse duty factor | 1:1 |

¹ Pole protection with supply voltage DC 10 - 30 V

**ELECTRICAL CONNECTIONS
Cable PVC**

| Cable PVC (A, B) Colour | Output RS422 (R, T) | push-pull (K) | push-pull complementary (I) |
|-------------------------------|---|---------------------------|--------------------------------|
| red | DC 5 / 10 - 30 V | DC 10 - 30 V | DC 10 - 30 V |
| yellow/red | Sense V _{cc} | | Sense V _{cc} |
| white | Channel A | Channel A | Channel A |
| white/brown | Channel \bar{A} | | Channel \bar{A} |
| green | Channel B | Channel B | Channel B |
| green/brown | Channel \bar{B} | | Channel \bar{B} |
| yellow | Channel N | Channel N | Channel N |
| yellow/brown | Channel \bar{N} | | Channel \bar{N} |
| black | GND | GND | GND |
| yellow/black | $\overline{\text{Alarm}}$ /Sense GND ¹ | $\overline{\text{Alarm}}$ | $\overline{\text{Alarm}}$ |
| screen ² | screen ² | screen ² | screen ² |

¹ depending on ordering code

² connected with encoder housing

TECHNICAL DATASHEET

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ELECTRICAL CONNECTIONS

Cable TPE

| Cable TPE (E, F) Colour | Output RS422 (R, T) | push-pull (K) | push-pull complementary (I) |
|-----------------------------|------------------------------|---------------------|-----------------------------|
| brown/green | DC 5 / 10 - 30 V | DC 10 - 30 V | DC 10 - 30 V |
| blue | Sense V _{cc} | | Sense V _{cc} |
| brown | Channel A | Channel A | Channel A |
| green | Channel \bar{A} | | Channel \bar{A} |
| grey | Channel B | Channel B | Channel B |
| pink | Channel \bar{B} | | Channel \bar{B} |
| red | Channel N | Channel N | Channel N |
| black | Channel \bar{N} | | Channel \bar{N} |
| white/green | GND | GND | GND |
| violet (white) ¹ | Alarm/Sense GND ² | Alarm | Alarm |
| screen ³ | screen ³ | screen ³ | screen ³ |

¹ white with RS422 + Sense (T)

² depending on ordering code

³ connected with encoder housing

ELECTRICAL CONNECTIONS

M23 connector (Conin), 12 pole

| Pin | RS422 + Sense (T) | RS422 + Alarm (R) | push-pull (K) | push-pull complementary (I) |
|-----|-----------------------|-----------------------|-------------------|-----------------------------|
| 1 | Channel \bar{B} | Channel \bar{B} | N.C. | Channel \bar{B} |
| 2 | Sense V _{cc} | Sense V _{cc} | N.C. | Sense V _{cc} |
| 3 | Channel N | Channel N | Channel N | Channel N |
| 4 | Channel \bar{N} | Channel \bar{N} | N.C. | Channel \bar{N} |
| 5 | Channel A | Channel A | Channel A | Channel A |
| 6 | Channel \bar{A} | Channel \bar{A} | N.C. | Channel \bar{A} |
| 7 | N.C. | Alarm | Alarm | Alarm |
| 8 | Channel B | Channel B | Channel B | Channel B |
| 9 | N.C. ¹ | N.C. ¹ | N.C. ¹ | N.C. ¹ |
| 10 | GND | GND | GND | GND |
| 11 | Sense GND | N.C. | N.C. | N.C. |
| 12 | DC 5 V | DC 10 - 30 V | DC 10 - 30 V | DC 10 - 30 V |

¹ screen for cable with CONIN connector

ELECTRICAL CONNECTIONS

MS connector, 10 pole

| Pin | Description RS422 / Euro-pinout (Connection codes O and K) | push-pull | push-pull complementary |
|------|--|--------------|-------------------------|
| 1/A | Channel A | Channel A | Channel A |
| 2/B | Channel B | Channel B | Channel B |
| 3/C | Channel N | Channel N | Channel N |
| 4/D | DC 5/10 - 30 V | DC 10 - 30 V | DC 10 - 30 V |
| 5/E | Alarm | Alarm | Alarm |
| 6/F | GND | GND | GND |
| 7/G | Channel \bar{A} | screen | Channel \bar{A} |
| 8/H | Channel \bar{B} | N.C. | Channel \bar{B} |
| 9/I | Channel \bar{N} | N.C. | Channel \bar{N} |
| 10/J | screen | screen | screen |

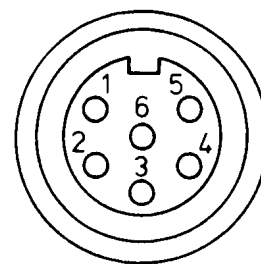
TECHNICAL DATASHEET

Incremental Encoder RI 58-O / RI 58-T

ELECTRICAL CONNECTIONS

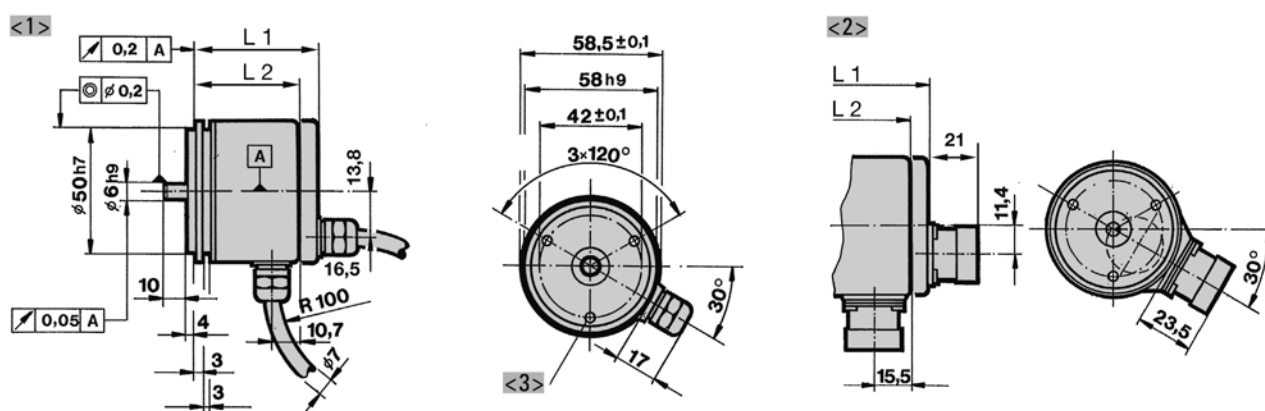
M16 connector (Binder), 6 pole

| Description (push-pull) | Pin |
|-------------------------|-----|
| DC 10 - 30 V | 1 |
| Channel A | 2 |
| Channel N | 3 |
| Channel B | 4 |
| Alarm | 5 |
| GND | 6 |



DIMENSIONED DRAWINGS

Synchro flange. 58 mm

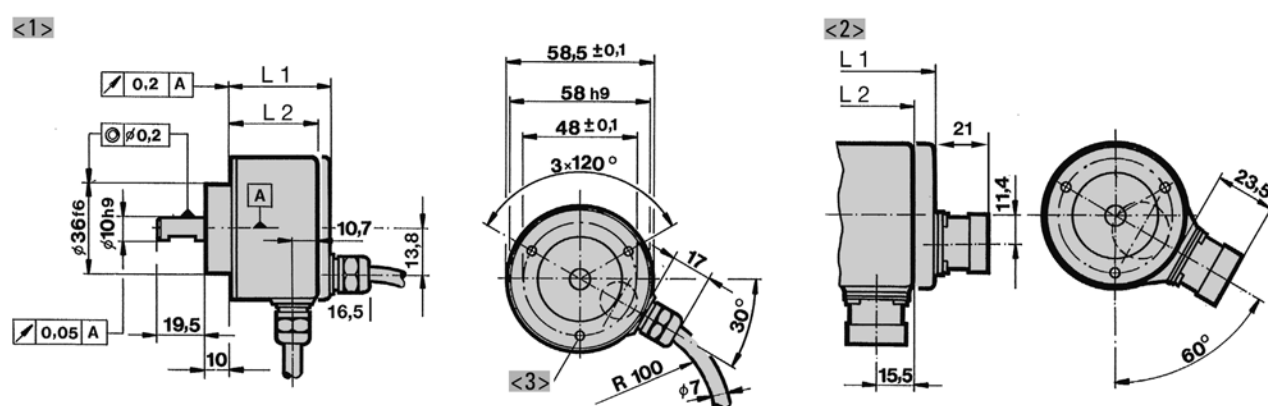


- <1> Connection cable, axial/radial
- <2> M23, 12 pole, axial/ radial
- <3> mounting thread M4x5

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

Dimensions in mm

Clamping flange. 58 mm



- <1> Connection cable, axial/radial
- <2> M23, 12 pole, axial/ radial
- <3> mounting thread M3x5 (Option M4x5)

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

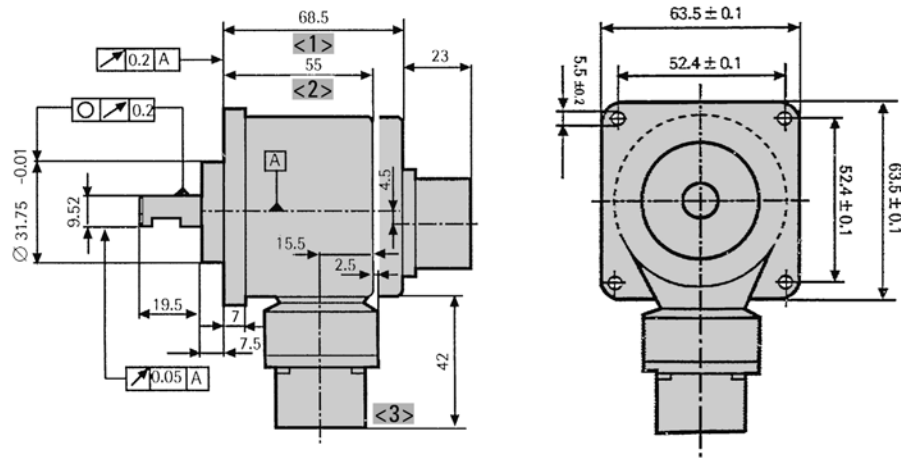
Dimensions in mm

TECHNICAL DATASHEET

Incremental Encoder RI 58-O / RI 58-T

DIMENSIONED DRAWINGS (continued)

Square flange, 63.5 mm x 63.5 mm (2.5" x 2.5")

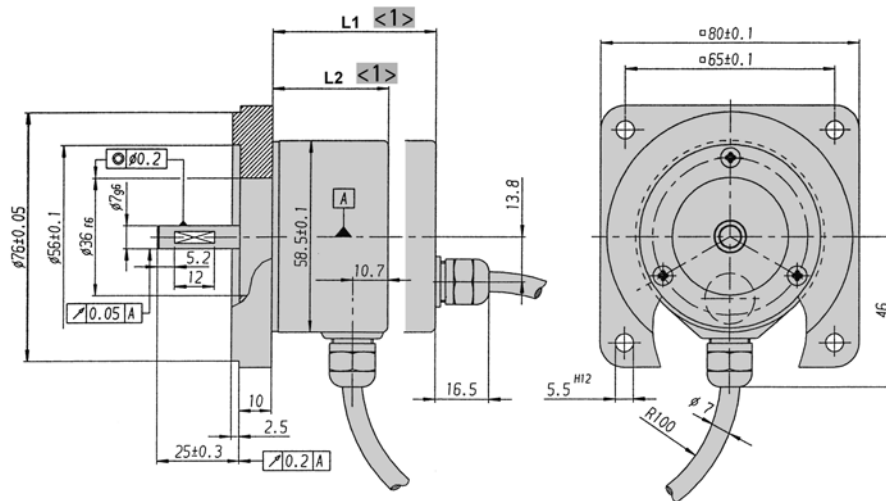


<1> axial
<2> radial

<3> MS 6 - 10 pole

Dimensions in mm

Square flange 80 x 80 mm



<1> L1, L2 see clamping flange
Cable bending radius R for flexible installation ≥ 100 mm

Cable bending radius R for fixed installation ≥ 40 mm

Dimensions in mm

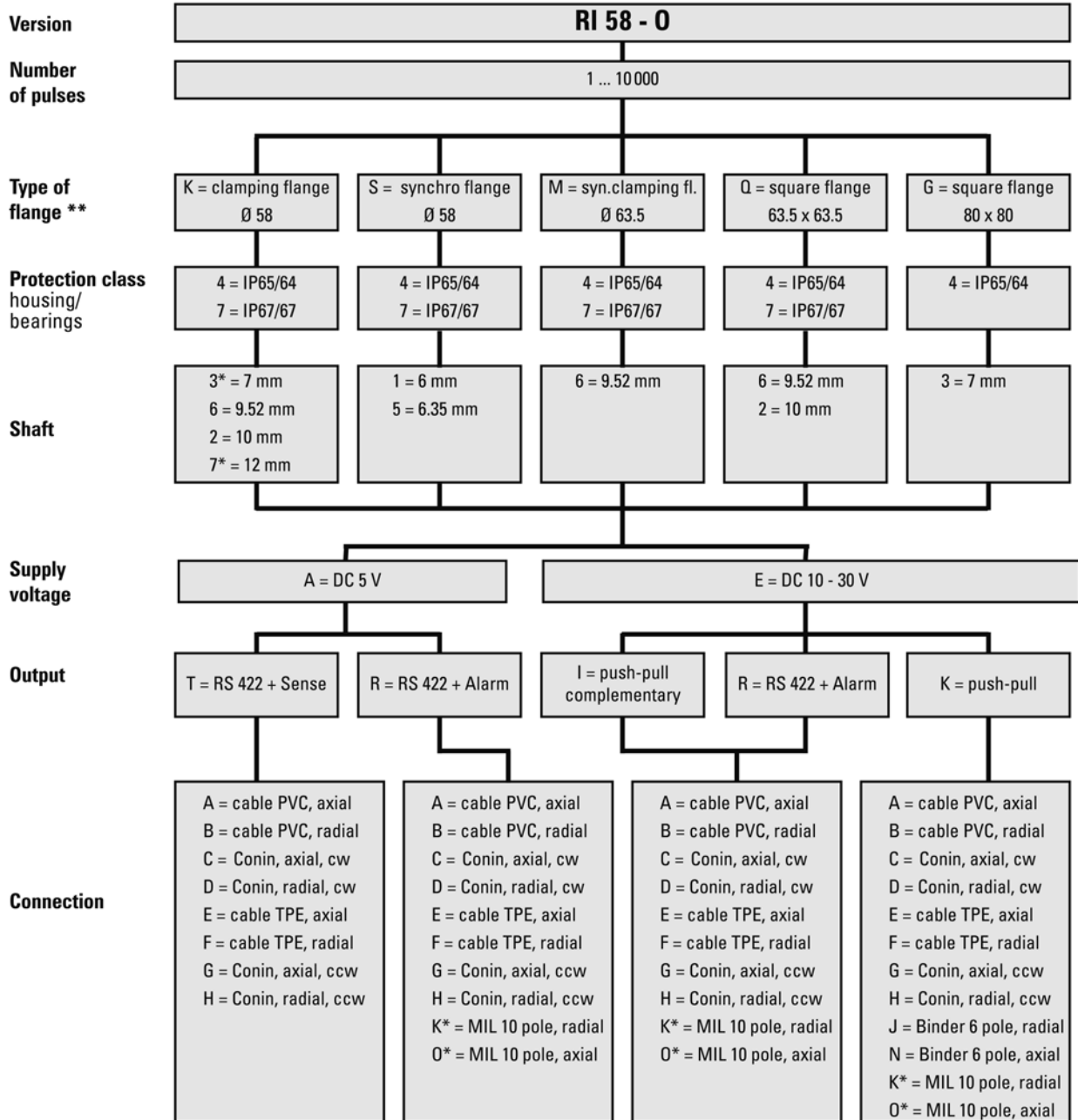
DIMENSIONS

| Typ | Connection | Output | axial L1 mm | radial L2 mm |
|---------------------------|------------|-----------------------------------|----------------|-----------------|
| Synchro flange, 58 mm | cable | R (with $U_B = DC 5 V$), T, K, I | 51.5 | 41.5 |
| | | R (with $U_B = DC 10 - 30 V$) | 56 | 56 |
| | connector | R (with $U_B = DC 5 V$), T, K, I | 57.5 | 51.5 |
| | | R (with $U_B = DC 10 - 30 V$) | 57.5 | 56 |
| Clamping flange, 58 mm | cable | R (with $U_B = DC 5 V$), T, K, I | 45.5 | 35.5 |
| | | R (with $U_B = DC 10 - 30 V$) | 50 | 50 |
| | connector | R (with $U_B = DC 5 V$), T, K, I | 51.5 | 45.5 |
| | | R (with $U_B = DC 10 - 30 V$) | 51.5 | 50 |

TECHNICAL DATASHEET

Incremental Encoder RI 58-O / RI 58-T

STANDARD VERSIONS



* not for IP67

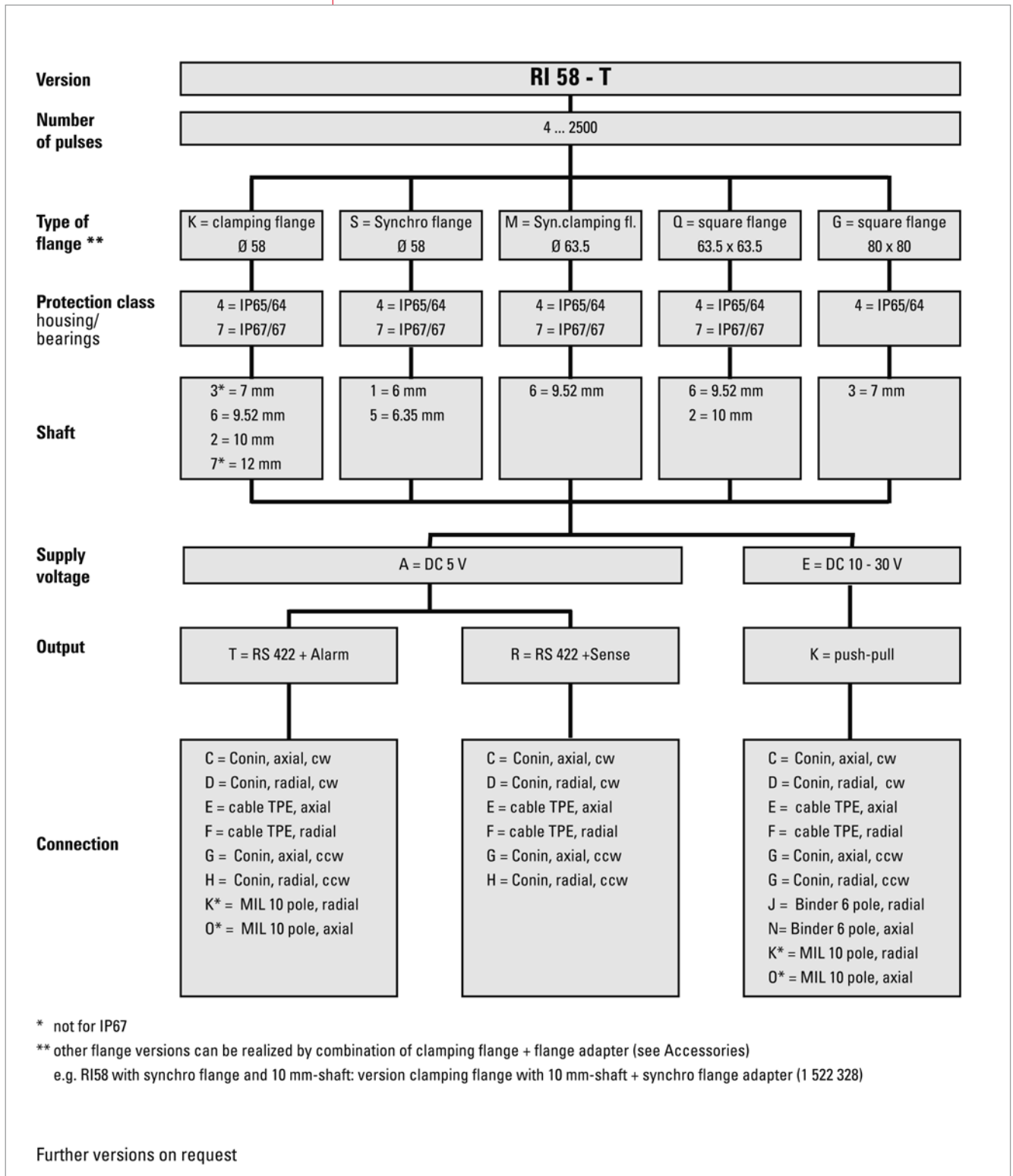
** other flange versions can be realized by combination of clamping flange + flange adapter (see Accessories)

e.g. RI58 with synchro flange and 10 mm-shaft: version clamping flange with 10 mm-shaft + synchro flange adapter (1 522 328)

TECHNICAL DATASHEET

Incremental Encoder RI 58-O / RI 58-T

STANDARD VERSIONS (100 °C max. operating temperature)



TECHNICAL DATASHEET

Incremental Encoder RI 58-O / RI 58-T

ORDERING INFORMATION

| Type | Number of pulses | Supply voltage ¹ | Flange, Protection, Shaft ^{2,3} | Output ⁴ | Connection ^{5,6} |
|--------------------------------|---|--|--|--|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| RI58-O RI58-T | RI 58-O: 1 ... 10000 RI 58-T: 4 ... 2500 | A DC 5 V E DC 10 - 30 V | S.41 Synchro, IP65 ⁷ , 6 mm S.45 Synchro, IP65 ⁷ , 6.35 mm ⁷ S.71 Synchro, IP67, 6 mm S.75 Synchro, IP67, 6.35 mm K.42 Clamping, IP65 ⁷ , 10 mm K.47 Clamping, IP65 ⁷ , 12 mm K.43 Clamping, IP65 ⁷ , 7 mm K.46 Clamping, IP65 ⁷ , 9.52 mm K.72 Clamping, IP67, 10 mm K.76 Clamping, IP67, 9.52 mm M.46 Syn.clamping, IP65 ⁷ , 9.52 mm M.76 Syn.clamping, IP67, 9.52 mm Q.46 Square, IP65 ⁷ , 9.52 mm Q.42 Square, IP65 ⁷ , 10 mm Q.76 Square, IP67, 9.52 mm Q.72 Square, IP67, 10 mm G.43 Square 80x80, IP65 ⁷ , 7 mm | R RS422 +Alarm T RS422 +Sense K Push-pull I Push-pull complementary | A PVC cable, axial B PVC cable, radial E TPE cable, axial F TPE cable, radial C M23 connector (Conin), 12 pole, axial, cw D M23 connector (Conin), 12 pole, radial, cw G M23 connector (Conin), 12 pole, axial, ccw H M23 connector (Conin), 12 pole, radial, ccw J M16 connector (Binder), 6 pole, radial N M16 connector (Binder), 6 pole, axial O MS connector, 10 pole (Insert arrangement 18-1), axial K MS connector, 10 pole (Insert arrangement 18-1), radial |

¹ DC 10 - 30 V available with output K, I, R/ DC 5 V available with output R, T

² other flange versions can be realized by combination of clamping flange + flange adapter (see Accessories), e.g. RI58 with synchro flange and 10 mm-shaft: version clamping flange with 10 mm-shaft + synchro flange adapter (1 522 328)

³ Output code "K" and "I": short-circuit-proof

⁴ Connection code "O", "K": according to MIL-C-5015 (only RI 58-O)

⁵ IP67 on cover with connector only if IP67 mating connector mounted properly.

⁶ Connection code "O", "K": according to MIL-C-5016 (only RI 58-T)

⁷ Protection class shaft input (EN 60529) IP64

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 connector, cw: ... B - D0 - I

TECHNICAL DATASHEET

**Incremental Encoder RI 58-O / RI 58-T
Accessories**

FLEXIBLE COUPLINGS



Bellows coupling



Disk coupling



Helical coupling



Isolated disk coupling



Plastic coupling

| | | Ordering code |
|------------------------|-------------------|----------------------|
| Bellows coupling | 12 mm / 12 mm | 0 070 666 |
| Bellows coupling | 10 mm / 10 mm | 3 520 037 |
| Bellows coupling | 9.53 mm / 9.53 mm | 3 520 038 |
| Bellows coupling | 6 mm / 6 mm | 3 520 068 |
| Bellows coupling | 8 mm / 10 mm | 3 520 077 |
| Disk coupling | 6 mm / 6 mm | 0 070 663 |
| Helical coupling 19/28 | 5 mm / 5 mm | 3 520 036 |
| Helical coupling 19/28 | 5 mm / 6 mm | 3 520 035 |
| Helical coupling 19/28 | 6 mm / 6 mm | 0 070 653 |
| Helical coupling 19/28 | 6.35 mm / 6.35 mm | 3 520 057 |
| Helical coupling 25/32 | 6 mm / 9.53 mm | 3 520 052 |
| Helical coupling 25/32 | 6 mm / 10 mm | 3 520 066 |
| Helical coupling 25/32 | 6.35 mm / 9.52 mm | 3 520 062 |
| Helical coupling 25/32 | 10 mm / 12 mm | 3 520 065 |
| Helical coupling 25/32 | 10 mm / 10 mm | 3 520 074 |
| Isolated disk coupling | 6 mm / 6 mm | 3 520 081 |
| Isolated disk coupling | 6 mm / 10 mm | 3 520 082 |
| Isolated disk coupling | 6 mm / 9.53 mm | 3 520 084 |
| Isolated disk coupling | 6.35 mm / 6.35 mm | 3 520 085 |
| Isolated disk coupling | 7 mm / 7 mm | 3 520 086 |
| Isolated disk coupling | 10 mm / 10 mm | 3 520 088 |
| Plastic coupling | 5 mm / 6 mm | 3 520 033 |
| Plastic coupling | 6 mm / 6 mm | 1 761 026 |
| Plastic coupling | 5 mm / 5 mm | 3 520 034 |

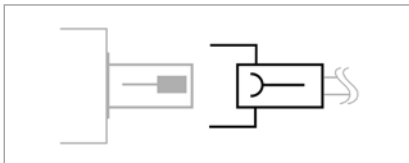
MOUNTING

| | Ordering code |
|---|----------------------|
| Clamping eccentric for synchro flange, d6,5 for M3 (set of three) | 0 070 655 |
| Clamping eccentric for synchro flange, d9 for M3 (set of three) | 0 070 657 |
| Fastening angle (plastic), for clamping flange RI 58, AC 58 (fastening material included) | 1 522 329 |
| Mounting bell (plastic), for synchro flange RI 58, AC 58 (clamping eccentric and fastening material included) | 1 522 330 |
| Square flange adapter 58 x 58 mm, for clamping flange RI 58, AC 58 (fastening material included) | 1 522 326 |
| Square flange adapter 80 x 80 mm, for clamping flange RI 58, AC 58 (fastening material included) | 1 522 327 |
| Synchro flange adapter , for clamping flange RI 58, AC 58 (fastening material included) | 1 522 328 |

TECHNICAL DATASHEET

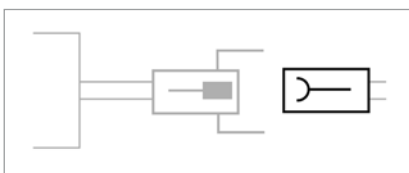
**Incremental Encoder RI 58-O / RI 58-T
Accessories**

CONNECTORS



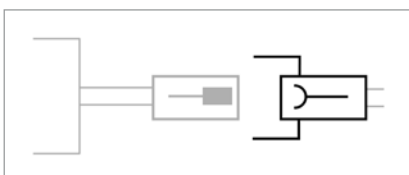
| Connector (socket) matching with encoder connector | Ordering code |
|---|---------------|
| M16 (Binder), 6 pole, bent, IP40, mating connector for connection J/N | 3 539 209 |
| M16 (Binder), 6 pole, gerade, IP67, mating connector for connection J/N | 3 539 472 |
| M23 (Conin), 12 pole, PG9, cw, mating connector for connection C/D/-I | 3 539 202 |
| MS, 10 pole, mating connector for connection K/O/R/T | 3 539 258 |
| MS, 7 pole, mating connector for connection L/P | 3 539 262 |
| PT, 8 pole, mating connector for connection 1/2 | 3 539 333 |

CONNECTORS



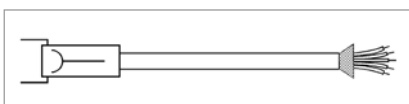
| Coupling (socket) matching with encoder cable with connector | Ordering code |
|---|---------------|
| M23 (Conin), 12 pole, cw, mating connector for connection -C (cable plug 3 539 186) | 3 539 187 |
| M23 (VDW), 12 pole, cw, mating connector for connection -B (cable plug 3 539 252) | 3 539 304 |

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 |
|---|---------------|
| M16 (Binder), 6 pole, PVC cable, mating connector for connection J/N, 3 m | 1 522 405 |
| M16 (Binder), 6 pole, PVC cable, mating connector for connection J/N, 5 m | 1 522 404 |
| M16 (Binder), 6 pole, PVC cable, mating connector for connection J/N, 10 m | 1 522 340 |
| M16 (Binder), 6 pole, PVC cable, mating connector for connection J/N, 15 m | 1 522 833 |
| M16 (Binder), 6 pole, PVC cable, mating connector for connection J/N, 50 m | 1 522 836 |
| 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 |

TECHNICAL DATASHEET

**Incremental Encoder RI 58-O / RI 58-T
Accessories**

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, 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 |
| 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 |
| MS, 10 pole, TPE cable, mating connector for connection O/K, 3 m | 1 522 610 |
| MS, 10 pole, TPE cable, mating connector for connection O/K, 5 m | 1 522 754 |

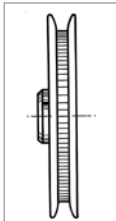
CONNECTING CABLES

| 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 |

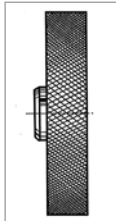
TECHNICAL DATASHEET

Incremental Encoder RI 58-O / RI 58-T Accessories

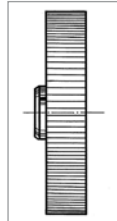
MEASURING WHEELS



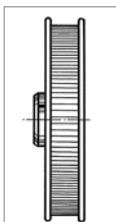
Tread 1



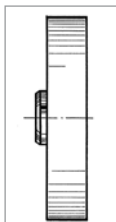
Tread 2 + 3



Tread 4



Tread 5



Tread 6

Tread 1

with rim and fine crosshatched knurl
Applications such as threads and yarns

Tread 2 A

with glued-on rubber profile A = soft specially clinging rubber surface (red)
Applications such as paper and cardboard, measuring cables, nongreasy metals, fleece, undressed or surface-treated wood, soft and hard plastics

Tread 2 B

with glued-on rubber profile B = low-wear rubber surface with good grip (white)
Applications such as paper and cardboard, measuring cables, nongreasy metals, fleece, undressed or surface-treated wood, soft and hard plastics

Tread 3

vulcanized rubber surface with parallel knurl
Applications such as rubber, leather, fabrics, flooring and glass

Tread 4

Aluminum with parallel knurl
Applications such as rubber, soft plastics, wood with rough surface, and to a limited extent for fabrics

Tread 5

with rim, aluminum with parallel knurl
Applications such as threads, yarns and bands

Tread 6

plastic surface
Applications such as wire, greasy metals and steel sections

| Material | Bore diameter (mm) fitting to encoder shaft | Circum- ference | Tread | Width of bearing surface | Ordering code |
|----------|--|--------------------|-------|--------------------------------|---------------|
| Aluminum | 7 mm | 1 ft | 2 A | 25 mm | 0 601 071 |
| Aluminum | 7 mm | 1 ft | 2 B | 25 mm | 0 601 171 |
| Aluminum | 6 mm | 0.2 m | 1 | 4 mm | 0 601 015 |
| Aluminum | 7 mm | 0.2 m | 1 | 4 mm | 0 601 017 |
| Aluminum | 7 mm | 0.2 m | 2 A | 24 mm | 0 601 092 |
| Aluminum | 6 mm | 0.2 m | 2 B | 12 mm | 0 601 048 |
| Aluminum | 7 mm | 0.2 m | 2 B | 24 mm | 0 601 192 |
| Aluminum | 10 mm | 0.2 m | 2 B | 12 mm | 0 601 049 |
| Aluminum | 7 mm | 0.2 m | 4 | 20 mm | 0 601 093 |
| Aluminum | 7 mm | 0.2 m | 5 | 16.5 mm | 0 601 094 |
| Aluminum | 7 mm | 0.5 m | 2 A | 25 mm | 0 601 050 |
| Aluminum | 7 mm | 0.5 m | 2 B | 25 mm | 0 601 150 |
| Aluminum | 7 mm | 0.5 m | 2 B | 25 mm | 0 601 204 |
| Aluminum | 10 mm | 0.5 m | 2 B | 25 mm | 0 601 151 |
| Aluminum | 7 mm | 0.5 m | 3 | 25 mm | 0 601 059 |
| Aluminum | 10 mm | 0.5 m | 3 | 25 mm | 0 601 156 |

TECHNICAL DATASHEET

**Incremental Encoder RI 58-O / RI 58-T
Accessories**

MEASURING WHEELS (continued)

| Material | Bore diameter (mm) fitting to encoder shaft | Circum- ference | Tread | Width of bearing surface | Ordering code |
|----------|--|--------------------|-------|--------------------------------|------------------------|
| Aluminum | 12 mm | 0.5 m | 3 | 25 mm | 0 601 159 |
| Aluminum | 7 mm | 0.5 m | 4 | 25 mm | 0 601 121 ¹ |
| Aluminum | 7 mm | 0.5 m | 6 | 25 mm | 0 601 063 ¹ |
| Aluminum | 10 mm | 0.5 m | 6 | 25 mm | 0 601 163 |
| Aluminum | 12 mm | 0.5 m | 6 | 25 mm | 0 601 165 |
| Aluminum | 7 mm | 0.2 yd | 1 | 4 mm | 0 601 037 |
| Aluminum | 7 mm | 0.5 yd | 4 | 25 mm | 0 601 061 |
| Aluminum | 10 mm | 0.5 yd | 4 | 25 mm | 0 601 157 |
| Plastic | 7 mm | 0.5 m | 4 | 25 mm | 0 601 301 |
| Plastic | 7 mm | 0.5 m | 6 | 25 mm | 0 601 300 |

¹ PTB approved