

# RN6054

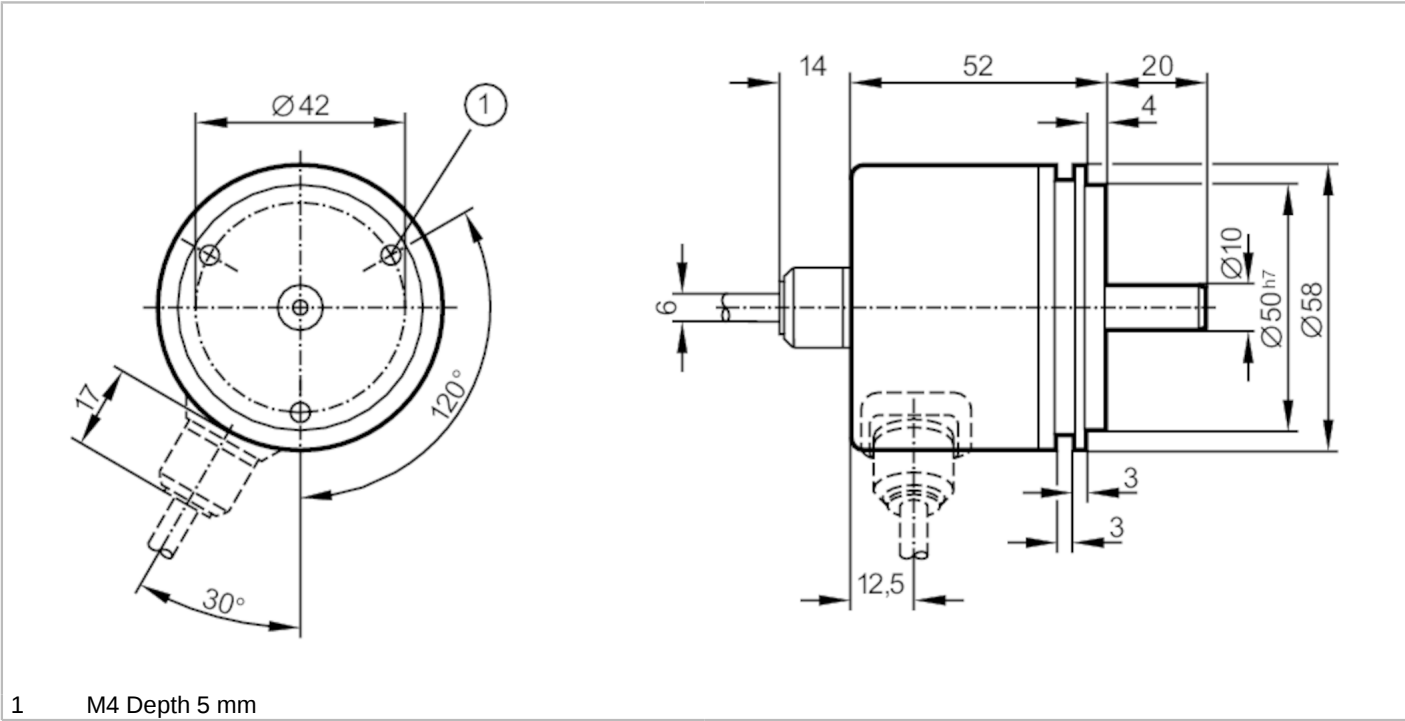


## Absolute singleturn encoder with solid shaft

RN-4096-S24/N1B

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Alternative articles: RN6055  
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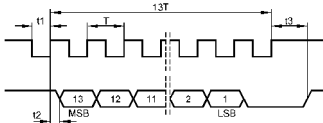


| Product characteristics            |                                                                                                                                                                                                                                                                                                    |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resolution                         | 4096 resolution; 4096 steps; 12 bit                                                                                                                                                                                                                                                                |
| Communication interface            | SSI data interface                                                                                                                                                                                                                                                                                 |
| Shaft design                       | solid shaft                                                                                                                                                                                                                                                                                        |
| Shaft diameter [mm]                | 10                                                                                                                                                                                                                                                                                                 |
| Electrical data                    |                                                                                                                                                                                                                                                                                                    |
| Operating voltage [V]              | 10...30 DC                                                                                                                                                                                                                                                                                         |
| Current consumption [mA]           | < 150                                                                                                                                                                                                                                                                                              |
| Max. revolution electrical [U/min] | 6000                                                                                                                                                                                                                                                                                               |
| Outputs                            |                                                                                                                                                                                                                                                                                                    |
| Code                               | Gray code; (increasing code values when turned clockwise (seen on the shaft))                                                                                                                                                                                                                      |
| Code signal                        | data input; TTL-compatible signals; clock and clock (inv.) from drivers to RS 485; data output; synchronous serial; TTL-compatible signals, data, and data (inv.); incremental signals; 2 sinusoidal incremental signals (A and B) ; phase shifted by 90°; 1 Vss 512 signal periods per revolution |
| Measuring/setting range            |                                                                                                                                                                                                                                                                                                    |
| Resolution                         | 4096 resolution; 4096 steps; 12 bit                                                                                                                                                                                                                                                                |
| Interfaces                         |                                                                                                                                                                                                                                                                                                    |
| Communication interface            | SSI data interface                                                                                                                                                                                                                                                                                 |



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| Operating conditions                                 |                                                                                                                                  |                     |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Ambient temperature                                  | [°C]                                                                                                                             | -20...85            |
| Storage temperature                                  | [°C]                                                                                                                             | -30...80            |
| Protection                                           |                                                                                                                                  | IP 64               |
| Tests / approvals                                    |                                                                                                                                  |                     |
| Shock resistance                                     |                                                                                                                                  | 100 g (6 ms)        |
| Vibration resistance                                 |                                                                                                                                  | 10 g (55...2000 Hz) |
| Mechanical data                                      |                                                                                                                                  |                     |
| Dimensions                                           | [mm]                                                                                                                             | Ø 58 / L = 52       |
| Materials                                            |                                                                                                                                  | aluminium           |
| Max. revolution, mechanical [U/min]                  |                                                                                                                                  | 12000               |
| Max. starting torque                                 | [Nm]                                                                                                                             | 1                   |
| Reference temperature                                | [°C]                                                                                                                             | 20                  |
| Shaft design                                         |                                                                                                                                  | solid shaft         |
| Shaft diameter                                       | [mm]                                                                                                                             | 10                  |
| Shaft material                                       |                                                                                                                                  | steel (1.4104)      |
| Max. shaft load axial (at the shaft end)             | [N]                                                                                                                              | 10                  |
| Max. shaft load radial (at the shaft end)            | [N]                                                                                                                              | 20                  |
| Remarks                                              |                                                                                                                                  |                     |
| Remarks                                              | Wires/pins not connected (n.c.) must not be used.                                                                                |                     |
| Electrical connection                                |                                                                                                                                  |                     |
| Cable: 1 m, PUR; Maximum cable length: 100 m; radial |                                                                                                                                  |                     |
| black                                                | n.c.                                                                                                                             |                     |
| red                                                  | n.c.                                                                                                                             |                     |
| green                                                | n.c.                                                                                                                             |                     |
| brown                                                | n.c.                                                                                                                             |                     |
| brown/green                                          | 10...30V (Up)                                                                                                                    |                     |
| lilac                                                | clock                                                                                                                            |                     |
| yellow                                               | clock inverted                                                                                                                   |                     |
| screen                                               | housing                                                                                                                          |                     |
| white/green                                          | 0V (Un)                                                                                                                          |                     |
| blue / black                                         | B+                                                                                                                               |                     |
| red/black                                            | B-                                                                                                                               |                     |
| grey                                                 | data                                                                                                                             |                     |
| green / black                                        | A+                                                                                                                               |                     |
| yellow / black                                       | A-                                                                                                                               |                     |
| pink                                                 | data inverted                                                                                                                    |                     |
| Diagrams and graphs                                  |                                                                                                                                  |                     |
| Pulse diagram                                        | <div></div> <div>clock</div> <div>data</div> |                     |