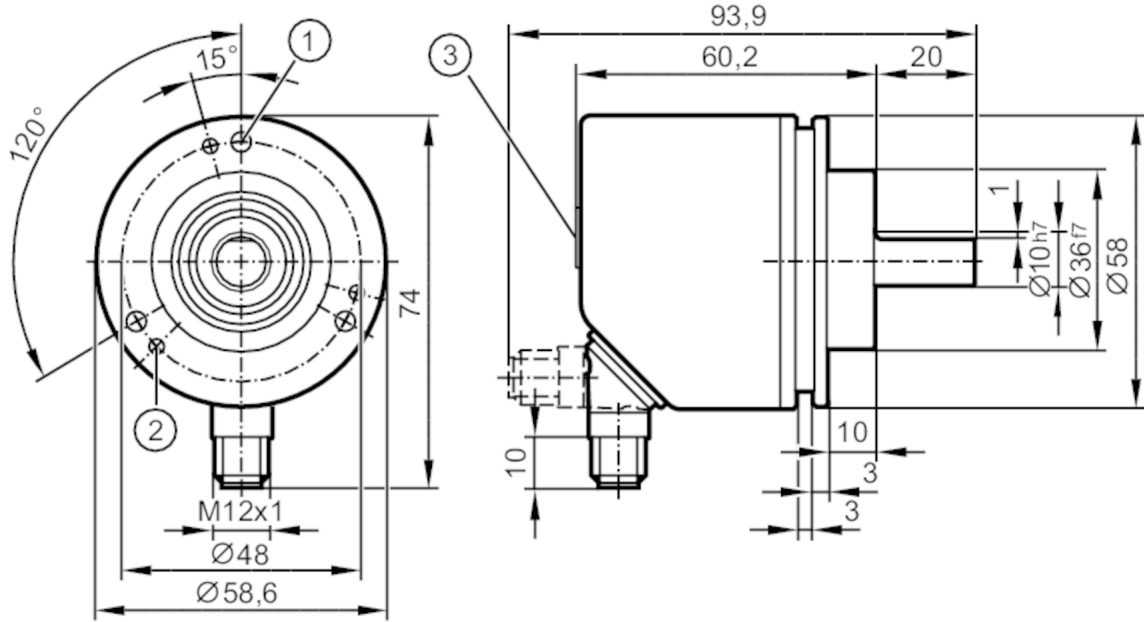


# RVP510



### Incremental encoder with solid shaft and display

## INCREMENTAL ENCODER PERFORMANCE LINE



- |   |                     |
|---|---------------------|
| 1 | M4 x 0.7 Depth 6 mm |
| 2 | M3 x 0.5 Depth 6 mm |
| 3 | display             |



## IO-Link



## Product characteristics

|                         |                                                                |
|-------------------------|----------------------------------------------------------------|
| Resolution              | 1...10000; (parameterisable; Factory setting: 1024) resolution |
| Communication interface | IO-Link                                                        |
| Shaft design            | solid shaft                                                    |
| Shaft diameter [mm]     | 10                                                             |

## Application

|                    |                                 |
|--------------------|---------------------------------|
| Function principle | incremental                     |
| Detection system   | magnetic                        |
| Application        | encoder; Speed monitor; counter |

## Electrical data

|                             |         |              |
|-----------------------------|---------|--------------|
| Operating voltage           | [V]     | 4.75...30 DC |
| Current consumption         | [mA]    | < 350        |
| Protection class            |         | III          |
| Reverse polarity protection |         | yes          |
| Max. revolution electrical  | [U/min] | 12000        |

## Outputs

|                              |                              |
|------------------------------|------------------------------|
| Electrical design            | HTL/TTL                      |
| Switching frequency [kHz]    | 1000                         |
| Factory setting              | Output function: HTL (50 mA) |
| Short-circuit protection     | yes                          |
| Phase difference A and B [°] | 90                           |



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| Measuring/setting range                   |                                                                                 |                                    |
|-------------------------------------------|---------------------------------------------------------------------------------|------------------------------------|
| Resolution                                | 1...10000; (parameterisable; Factory setting: 1024) resolution                  |                                    |
| Speed monitor                             |                                                                                 |                                    |
| Set point SP                              | -9994...9999 U/min                                                              | -166.6...166.7 Hz                  |
| Reset point rP                            | -9999...9994 U/min                                                              | -166.7...166.6 Hz                  |
| Counter                                   |                                                                                 |                                    |
| Preset point                              | 1...9999                                                                        |                                    |
| Accuracy / deviations                     |                                                                                 |                                    |
| Accuracy                                  | [°]                                                                             | 0.1                                |
| Software / programming                    |                                                                                 |                                    |
| Parameter setting options                 | encoder; Resolution; direction of rotation; HTL; TTL; Speed monitor; Resolution |                                    |
| Interfaces                                |                                                                                 |                                    |
| Communication interface                   | IO-Link                                                                         |                                    |
| Transmission type                         | COM2 (38,4 kBaud)                                                               |                                    |
| IO-Link revision                          | 1.1                                                                             |                                    |
| SIO mode                                  | yes                                                                             |                                    |
| Min. process cycle time                   | [ms]                                                                            | 2.3                                |
| Operating conditions                      |                                                                                 |                                    |
| Ambient temperature                       | [°C]                                                                            | -40...85                           |
| Storage temperature                       | [°C]                                                                            | -40...85                           |
| Max. relative air humidity                | [%]                                                                             | 95; (condensation not permissible) |
| Protection                                | IP 65; (on the housing: IP 67; on the shaft: IP 64)                             |                                    |
| Tests / approvals                         |                                                                                 |                                    |
| Shock resistance                          |                                                                                 | 100 g                              |
| Vibration resistance                      |                                                                                 | 20 g                               |
| MTTF                                      | [ANN]                                                                           | 218                                |
| Mechanical data                           |                                                                                 |                                    |
| Weight                                    | [g]                                                                             | 429                                |
| Dimensions                                | [mm]                                                                            | Ø 58 / L = 80.2                    |
| Materials                                 | flange: aluminium; housing: stainless steel (1.4521 / 444); display window: PEI |                                    |
| Max. revolution, mechanical [U/min]       | 12000                                                                           |                                    |
| Max. starting torque                      | [Nm]                                                                            | 1                                  |
| Reference temperature torque              | [°C]                                                                            | 20                                 |
| Shaft design                              | solid shaft                                                                     |                                    |
| Shaft diameter                            | [mm]                                                                            | 10                                 |
| Shaft material                            | stainless steel                                                                 |                                    |
| Max. shaft load axial (at the shaft end)  | [N]                                                                             | 40                                 |
| Max. shaft load radial (at the shaft end) | [N]                                                                             | 60                                 |
| Fixing flange                             | clamping flange                                                                 |                                    |



## Incremental encoder with solid shaft and display

INCREMENTAL ENCODER PERFORMANCE LINE

| Displays / operating elements |  |                                                       |
|-------------------------------|--|-------------------------------------------------------|
| Display                       |  | 10-segment display, red/green 4-digit parameterisable |
|                               |  | 2 x LED, yellow                                       |
|                               |  | 5 x LED, green                                        |

### Electrical connection

Connector: 1 x M12, radial, can also be used axially; coding: A; Moulded body: stainless steel (316 / 1.4401); Maximum cable length: 100 m; (IO-Link: max. 20 m)



### IO-Link

|        |                |
|--------|----------------|
| 1      | L+             |
| 2      | not to be used |
| 3      | L-             |
| 4      | IO-Link        |
| 5      | not to be used |
| 6      | not to be used |
| 7      | not to be used |
| 8      | not to be used |
| Screen | plug           |

### encoder

|        |                    |
|--------|--------------------|
| 1      | UB                 |
| 2      | A                  |
| 3      | GND                |
| 4      | Z/0-Pulse (90 deg) |
| 5      | B                  |
| 6      | A-                 |
| 7      | B-                 |
| 8      | Z-                 |
| Screen | plug               |

### Preset counter

|        |                |
|--------|----------------|
| 1      | UB             |
| 2      | IN1            |
| 3      | GND            |
| 4      | not to be used |
| 5      | OUT1           |
| 6      | not to be used |
| 7      | not to be used |
| 8      | not to be used |
| Screen | plug           |



## Incremental encoder with solid shaft and display

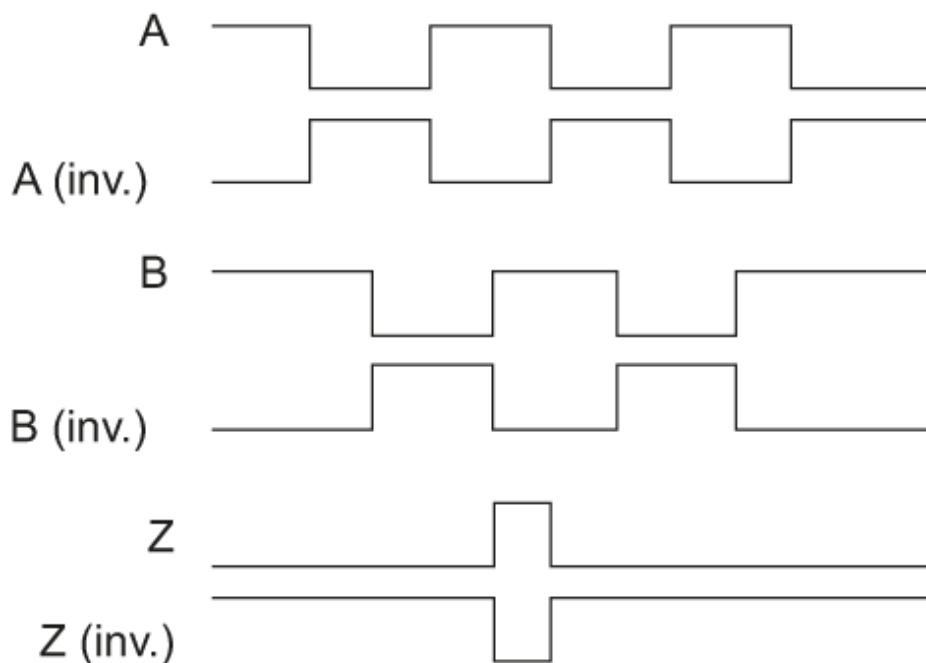
INCREMENTAL ENCODER PERFORMANCE LINE

### Speed monitor

|        |                |
|--------|----------------|
| 1      | UB             |
| 2      | OUT2           |
| 3      | GND            |
| 4      | not to be used |
| 5      | OUT1           |
| 6      | OUT2-          |
| 7      | OUT1-          |
| 8      | not to be used |
| Screen | plug           |

### Diagrams and graphs

#### Pulse diagram



direction of rotation clockwise (looking at the shaft)