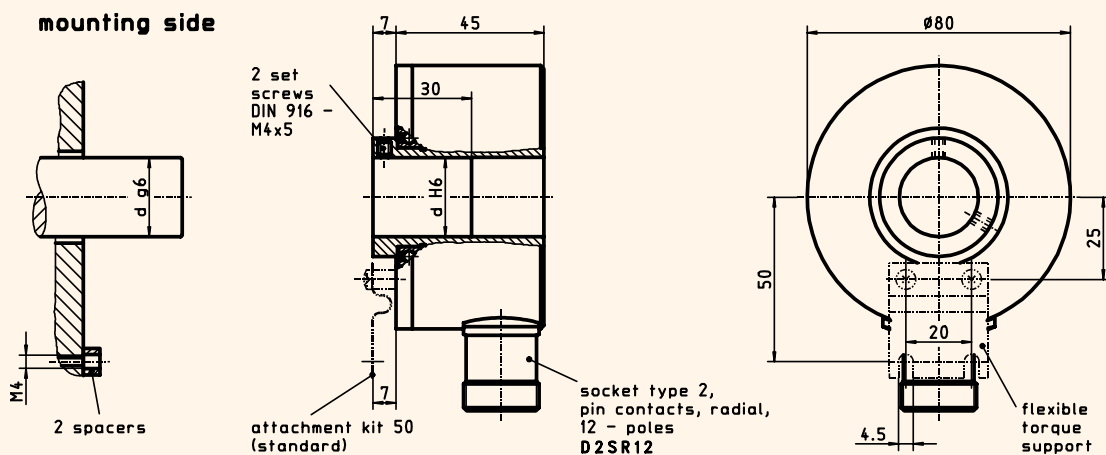
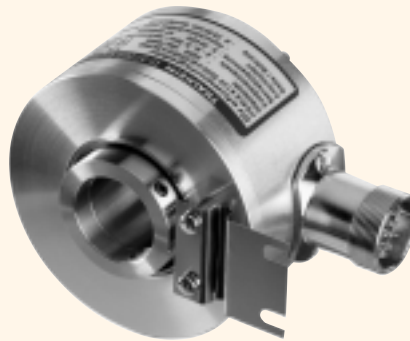
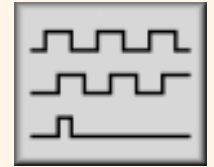


# Incremental Encoder with hollow shaft ITD 41 A 4 Y23

## Qualities:

- High-class incremental encoder with hollow shaft going through
- **Number of pulses**, up to **10000** pulses per revolution
- Mounting at torque support
- TTL- or HTL-output signals
- Socket radial



**ITD 41 A 4 Y23**

**drawing-no.: 026 - 5 Y23**

## Mechanical data:

|                                |               |   |
|--------------------------------|---------------|---|
| Housing                        |               | light-alloy metal, unpainted                              |
| Design style                   | <b>A 4</b>    | A 4, hollow shaft going through                           |
| Attachment kit                 | <b>50</b>     | 50 ( standard ) ( ref. datasheet "Attachment kit's ..." ) |
| Protective class               | <b>IP65</b>   | IP 65 according to DIN 40 050, IEC 529                    |
| Construction principle         |               | LED with glas slotdisc ( observe frequency limit )        |
| max. revolution ( mechanical ) | $n_{max}$     | $\leq 5000$ rpm   |
| Admissible motor-shaft play    | axial         | $\leq 0.25$ mm  |
|                                | radial        | $\leq 0.1$ mm   |
| Starting torque                | at 20 ° C     | $\leq 1.5$ Ncm  |
| Vibration                      | 55... 2000 Hz | $\leq 100$ m/s <sup>2</sup>                               |
| Shock                          | 11 ms         | $\leq 300$ m/s <sup>2</sup>                               |
| Hollow shaft diameter          | d             | 25 mm ( standard ) ( 18 to 27 mm possible )               |
| Weight                         |               | approx. 580 g   |

# Incremental Encoder with hollow shaft

## ITD 41 A 4 Y23



### Electrical data:

|                               |                |               |   |
|-------------------------------|----------------|---------------|---|
| • Number of pulses            | Z              | <b>XXXX</b>   | 2000 to 10000 pulses per revolution   |
| • Execution of electronic     | TTL            | <b>T</b>      | TTL-output signals<br>supply voltage: $U_B = 5 \text{ VDC} \pm 5\%$ (poling error safe)   |
|                               | HTL            | <b>H</b>      | HTL-output signals<br>supply voltage: $U_B = 8 - 30 \text{ VDC}$ (poling error safe)  |
| • Output signals              | A, B, N + Inv. | <b>NI</b>     | 2 square-wave pulse trains phase shifted by $90^\circ (\pm 10^\circ)$ electr.<br>+ zero pulse, $90^\circ$ electr. length + inverting<br>(refer to output signals-diagram) |
| Pulse ratio                   |                |               | pulse : pause = 1 : 1 $\pm 10\%$ at 30 kHz  |
| Flank steepness               |                |               | $\geq 15 \text{ V}/\mu\text{s}$   |
| Frequency limit               | $f_G$          | <b>TTL</b>    | 300 kHz   |
| Output load current           | $I_{Load}$     | <b>TTL</b>    | $\leq 70 \text{ mA}$  |
| Input current                 | $I_{max}$      |               | $\leq 100 \text{ mA}$   |
| Permissible cable length      |                |               | $\leq 100 \text{ m}$  |
| • Type of connection          |                | <b>D2SR12</b> | socket type 2, pin contacts, radial, 12-poles   |
| • Operating temperature range |                | <b>S</b>      | $0^\circ \text{C}$ to $+70^\circ \text{C}$  |

### Options:

|                               |          |  |
|-------------------------------|----------|--|
| • Execution of electronic     | <b>R</b> | TTL-output signals<br>supply voltage: $U_B = 8 - 30 \text{ VDC}$ (poling error safe) |
| • Operating temperature range | <b>E</b> | $0^\circ \text{C}$ to $+100^\circ \text{C}$  |

### Accessories:

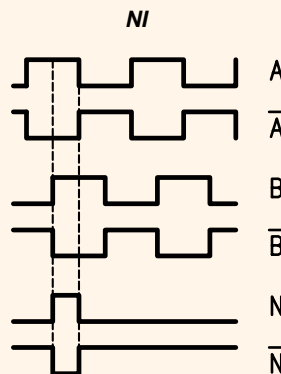
Connector, for version **D2S..12**

**S2BG12** connector type 2, bush contacts, straight, 12-poles

### Connection table:

| PIN-no. |   | signals               |
|---------|---|-----------------------|
| PIN 5   | = | A                     |
| PIN 6   | = | A inverted            |
| PIN 8   | = | B                     |
| PIN 1   | = | B inverted            |
| PIN 3   | = | N                     |
| PIN 4   | = | N inverted            |
| PIN 12  | = | + $U_B$               |
| PIN 10  | = | 0 V                   |
| PIN 2   | = | + $U_{sensor}$        |
| PIN 11  | = | 0 V <sub>sensor</sub> |
| PIN 7   | = | NC                    |
| PIN 9   | = | shilding/housing      |

### Output signal diagram:



**Pulse trains:**  
Clockwise rotation when looking at the end of the shaft. (mounting side)

### Ordering example:

|                               |                     |  |  |  |   |  |   |                                |                           |                               |
|-------------------------------|---------------------|--|--|--|---|--|---|--------------------------------|---------------------------|-------------------------------|
| <b>ITD 41</b>                 | <b>A 4</b>          | <b>Y23</b>                                       | <b>2500</b>                                  | <b>H</b>   | <b>NI</b>                                     | <b>D2SR12</b>  | <b>S</b>  | <b>25</b>                      | <b>IP65</b>               | <b>50</b>                     |
| Incremental encoder<br>ITD 41 | Design style<br>A 4 | Mechanical variante<br>Y23 = look at the drawing | Number of pulses<br>2500 pulses / revolution | Execution of electronic<br>$U_B = 8-30 \text{ VDC HTL-output}$ | Output signals<br>A-, B-, N-track + inverting | Type of connection<br>socket type 2, pin contacts,<br>radial, 12-poles | Operating temperature<br>$0^\circ \text{C}$ to $+70^\circ \text{C}$ | Hollow shaft diameter<br>25 mm | Protective class<br>IP 65 | Attachment kit variante<br>50 |