



# Online Data Sheet

## 인크리멘탈 할로우 샤프트 옵티컬 로터리 엔코더 - Ø 100mm WDG 100H 시리즈

### Wachendorff Automation ... systems and encoders

- Complete systems
- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

**Encoder WDG 100H**  
[www.wachendorff-automation.com/wdg100h](http://www.wachendorff-automation.com/wdg100h)

**Industrie ROBUST**

# Encoder WDG 100H



**1. 견고한 통과형(Thru-Bore) 중공축 로터리 엔코더**  
- 파워 모터용, 공간 최적화(extremely thin)

**2. 다양한 Bore 사이즈 적용 가능**  
- 25, 28, 30, 32, 38, 40, 42, 45mm

**3. 옵티컬(Optical) 방식으로 고정밀, 고분해능**  
- MAX 20480PPR

**4. IP54의 보호등급**

**5. UL 및 CE 인증 제품**

| Resolution                |                 |
|---------------------------|-----------------|
| Pulses per revolution PPR | up to 20480 PPR |

| Mechanical Data             |                                                               |
|-----------------------------|---------------------------------------------------------------|
| Housing                     |                                                               |
| Flange                      | hollow shaft (through-bored)                                  |
| Flange material             | aluminum                                                      |
| Housing cap                 | aluminum, powder coated                                       |
| Torque supports             | incl. 1 torque support WDGDS10001                             |
| - 1. Spring pl compensation | axial: $\pm 0.8$ mm [0.0315"], radial: $\pm 0.2$ mm [0.0079"] |
| Housing                     | $\varnothing$ 100 mm [ $\varnothing$ 3.543"]                  |

| Shaft(s)        |                                                       |
|-----------------|-------------------------------------------------------|
| Shaft material  | stainless steel                                       |
| Starting torque | approx. 1.5 Ncm [2.124 in-ozf] at ambient temperature |
| Fixing          | 2 x M4, DIN 913; Starting torque: 2,5 Nm              |

|                                       |                                             |
|---------------------------------------|---------------------------------------------|
| Shaft                                 | $\varnothing$ 25 mm [ $\varnothing$ 0.984"] |
| Shaft length                          | L: 42 mm [1.654"]                           |
| Insertion depth min.                  | 52 mm [2.047"]                              |
| Max. Permissible shaft loading radial | 200 N [20.394 kp]                           |
| Max. Permissible shaft loading axial  | 100 N [10.197 kp]                           |

|                                       |                                             |
|---------------------------------------|---------------------------------------------|
| Shaft                                 | $\varnothing$ 28 mm [ $\varnothing$ 1.102"] |
| Shaft length                          | L: 42 mm [1.654"]                           |
| Insertion depth min.                  | 52 mm [2.047"]                              |
| Max. Permissible shaft loading radial | 200 N [20.394 kp]                           |
| Max. Permissible shaft loading axial  | 100 N [10.197 kp]                           |

|                                       |                                             |
|---------------------------------------|---------------------------------------------|
| Shaft                                 | $\varnothing$ 30 mm [ $\varnothing$ 1.181"] |
| Shaft length                          | L: 42 mm [1.654"]                           |
| Insertion depth min.                  | 52 mm [2.047"]                              |
| Max. Permissible shaft loading radial | 200 N [20.394 kp]                           |
| Max. Permissible shaft loading axial  | 100 N [10.197 kp]                           |

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| Shaft                                 | $\varnothing$ 32 mm [ $\varnothing$ 1.26"] |
| Shaft length                          | L: 42 mm [1.654"]                          |
| Insertion depth min.                  | 52 mm [2.047"]                             |
| Max. Permissible shaft loading radial | 200 N [20.394 kp]                          |

|                                      |                   |
|--------------------------------------|-------------------|
| Max. Permissible shaft loading axial | 100 N [10.197 kp] |
|--------------------------------------|-------------------|

|                                       |                                             |
|---------------------------------------|---------------------------------------------|
| Shaft                                 | $\varnothing$ 38 mm [ $\varnothing$ 1.496"] |
| Shaft length                          | L: 42 mm [1.654"]                           |
| Insertion depth min.                  | 52 mm [2.047"]                              |
| Max. Permissible shaft loading radial | 200 N [20.394 kp]                           |
| Max. Permissible shaft loading axial  | 100 N [10.197 kp]                           |

|                                       |                                             |
|---------------------------------------|---------------------------------------------|
| Shaft                                 | $\varnothing$ 40 mm [ $\varnothing$ 1.575"] |
| Shaft length                          | L: 42 mm [1.654"]                           |
| Insertion depth min.                  | 52 mm [2.047"]                              |
| Max. Permissible shaft loading radial | 200 N [20.394 kp]                           |
| Max. Permissible shaft loading axial  | 100 N [10.197 kp]                           |

|                                       |                                             |
|---------------------------------------|---------------------------------------------|
| Shaft                                 | $\varnothing$ 42 mm [ $\varnothing$ 1.654"] |
| Shaft length                          | L: 42 mm [1.654"]                           |
| Insertion depth min.                  | 52 mm [2.047"]                              |
| Max. Permissible shaft loading radial | 200 N [20.394 kp]                           |
| Max. Permissible shaft loading axial  | 100 N [10.197 kp]                           |

|                                       |                                             |
|---------------------------------------|---------------------------------------------|
| Shaft                                 | $\varnothing$ 45 mm [ $\varnothing$ 1.772"] |
| Shaft length                          | L: 42 mm [1.654"]                           |
| Insertion depth min.                  | 52 mm [2.047"]                              |
| Max. Permissible shaft loading radial | 200 N [20.394 kp]                           |
| Max. Permissible shaft loading axial  | 100 N [10.197 kp]                           |

| Bearings             |                                                                                                                                                                    |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bearings type        | 2 precision ball bearings                                                                                                                                          |
| Nominal service life | 3 x 10 <sup>10</sup> revs. at 100 % rated shaft load<br>1 x 10 <sup>11</sup> revs. at 40 % rated shaft load<br>1 x 10 <sup>12</sup> revs. at 20 % rated shaft load |
| Max. operating speed | 3500 rpm                                                                                                                                                           |

| Machinery Directive: basic data safety integrity level |                                                                  |
|--------------------------------------------------------|------------------------------------------------------------------|
| MTTF <sub>d</sub>                                      | 200 a                                                            |
| Mission time (TM)                                      | 25 a                                                             |
| Nominal service life (L10h)                            | 1 x 10 <sup>12</sup> revs. at 20 % rated shaft load and 3500 rpm |
| Diagnostic coverage (DC)                               | 0 %                                                              |

| Electrical Data                  |                                                                                                                                                                           |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power supply/Current consumption | 4,75 VDC up to 5,5 VDC: typ. 70 mA (100 mA only F05, P05)                                                                                                                 |
| Power supply/Current consumption | 5 VDC up to 30 VDC: typ. 70 mA                                                                                                                                            |
| Power supply/Current consumption | 10 VDC up to 30 VDC: typ. 70 mA (100 mA only F24, P24, 645)                                                                                                               |
| Operating principle              | optical                                                                                                                                                                   |
| Output circuit                   | TTL<br>TTL, RS422 compatible, inv.<br>HTL<br>HTL, inv.<br>1 Vpp sin/cos                                                                                                   |
| Pulse frequency                  | TTL ≤ 5000 ppr: max. 200 kHz<br>HTL ≤ 5000 ppr: max. 200 kHz<br>TTL more than 1200 ppr: max. 2 MHz<br>HTL more than 1200 ppr: max. 600 kHz<br>1 Vpp sin/cos: max. 100 kHz |
| Channels                         | AB<br>ABN<br>and inverted signals                                                                                                                                         |
| Load                             | max. 40 mA / channel<br>@ 1 Vpp sin/cos: min. 120 Ohm                                                                                                                     |
| Circuit protection               | circuit type H24 and R24 only                                                                                                                                             |

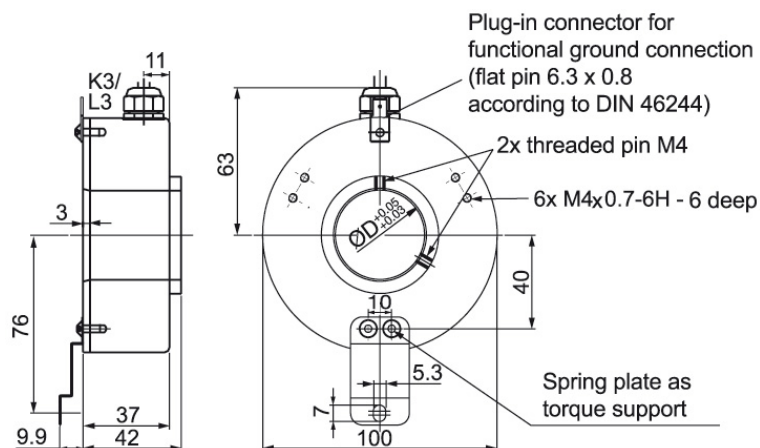
| Accuracy           |                                                                                         |
|--------------------|-----------------------------------------------------------------------------------------|
| Phase offset       | 90° ± max. 7.5 % of the period duration                                                 |
| pulse-/pause-ratio | ≤5000 ppr: 50 % ± max. 7 %<br>Output circuits F24, P24, F05, P05, 645: 50 % ± max. 10 % |

| Environmental data               |                                           |
|----------------------------------|-------------------------------------------|
| ESD (DIN EN 61000-4-2):          | 8 kV                                      |
| Burst (DIN EN 61000-4-4):        | 2 kV                                      |
| includes EMC:                    | DIN EN 61000-6-2<br>DIN EN 61000-6-3      |
| Vibration:<br>(DIN EN 60068-2-6) | 50 m/s <sup>2</sup> (10 Hz up to 2000 Hz) |
| Shock:<br>(DIN EN 60068-2-27)    | 1000 m/s <sup>2</sup> (6 ms)              |
| Electrical Safety:               | according DIN VDE 0160                    |

| Duty information       |          |
|------------------------|----------|
| Customs tariff number: | 90318020 |
| Country of origin:     | Germany  |

| General Data                 |                                                                                                      |
|------------------------------|------------------------------------------------------------------------------------------------------|
| Weight                       | approx. 720 g [25.397 oz]                                                                            |
| Connections                  | cable or connector, radial                                                                           |
| Protection rating (EN 60529) | IP54                                                                                                 |
| Operating temperature        | -20 °C up to +80 °C<br>[-4 °F up to +176 °F]<br>1 Vpp: -10 °C up to +70 °C<br>[+14 °F up to +158 °F] |
| Storage temperature          | -30 °C up to +80 °C<br>[-22 °F up to 176 °F]                                                         |

| More Information                                                                                                                                    |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|
| General technical data and safety instructions<br><a href="http://www.wachendorff-automation.com/gtd">http://www.wachendorff-automation.com/gtd</a> |  |
| Options<br><a href="http://www.wachendorff-automation.com/acc">http://www.wachendorff-automation.com/acc</a>                                        |  |

**Cable connection K3, L3 with 2 m cable**

**Description**
**ABN inv. poss.**
**K3** radial, shield not connected

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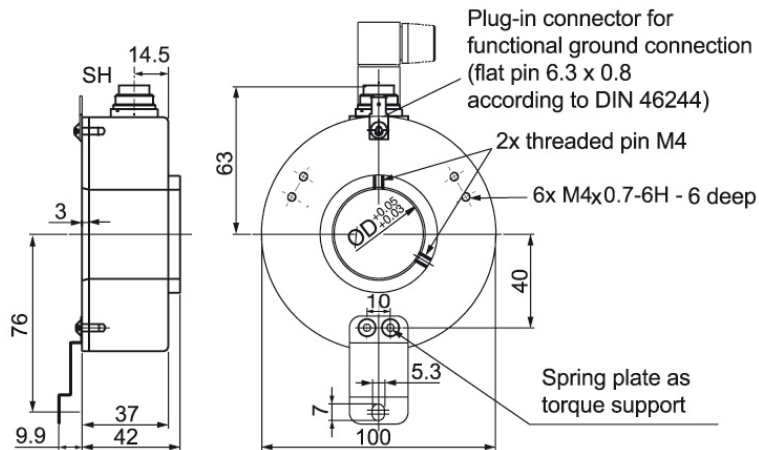
**L3** radial, shield connected to encoder housing

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**Assignments**

|                | <b>K3, L3</b>           | <b>K3, L3</b>                     | <b>L3</b> |
|----------------|-------------------------|-----------------------------------|-----------|
| <b>Circuit</b> | F05, H05, F24, H24, H30 | P05, R05, P24, R24, 245, 645, R30 | SIN       |
| <b>GND</b>     | WH                      | WH                                | WH        |
| <b>(+) Vcc</b> | BN                      | BN                                | BN        |
| <b>A</b>       | GN                      | GN                                | GN        |
| <b>B</b>       | YE                      | YE                                | GY        |
| <b>N</b>       | GY                      | GY                                | BK        |
| <b>-</b>       | -                       | -                                 | -         |
| <b>A inv.</b>  | -                       | RD                                | YE        |
| <b>B inv.</b>  | -                       | BK, (BU at ACA)                   | PK        |
| <b>N inv.</b>  | -                       | VT                                | VT        |
| <b>Shield</b>  | flex                    | flex                              | flex      |

**Connector (M16x0.75) SH, 5-, 6-, 8-, 12-pin**



**Description**

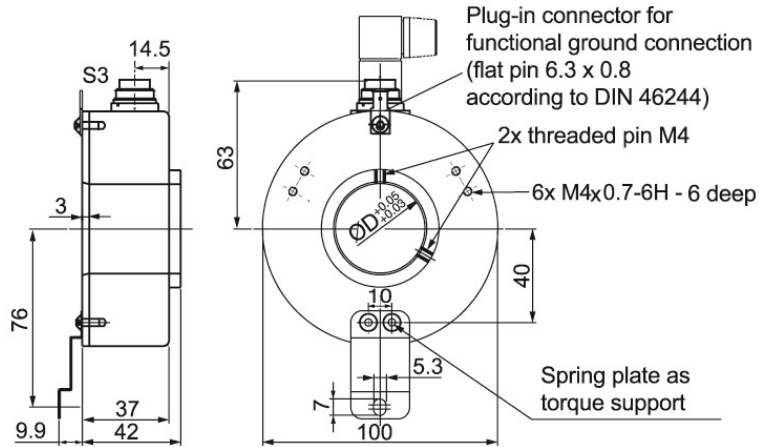
ABN inv. poss.

|             |                                                        |   |
|-------------|--------------------------------------------------------|---|
| <b>SH5</b>  | radial, 5-pin, Connector connected to encoder housing  | - |
| <b>SH6</b>  | radial, 6-pin, Connector connected to encoder housing  | - |
| <b>SH8</b>  | radial, 8-pin, Connector connected to encoder housing  | • |
| <b>SH12</b> | radial, 12-pin, Connector connected to encoder housing | • |

**Assignments**

|                | <b>SH5</b>              | <b>SH6</b>              | <b>SH8</b>                        | <b>SH8</b>   | <b>SH12</b>                       | <b>SH12</b>   |
|----------------|-------------------------|-------------------------|-----------------------------------|--------------|-----------------------------------|---------------|
|                | <b>5-pin</b>            | <b>6-pin</b>            | <b>8-pin</b>                      | <b>8-pin</b> | <b>12-pin</b>                     | <b>12-pin</b> |
|                |                         |                         |                                   |              |                                   |               |
| <b>Circuit</b> | F05, H05, F24, H24, H30 | F05, H05, F24, H24, H30 | P05, R05, P24, R24, R30, 245, 645 | SIN          | P05, R05, P24, R24, 245, 645, R30 | SIN           |
| <b>GND</b>     | 1                       | 6                       | 1                                 | 1            | K, L                              | K, L          |
| <b>(+) Vcc</b> | 2                       | 1                       | 2                                 | 2            | M, B                              | M, B          |
| <b>A</b>       | 3                       | 2                       | 3                                 | 3            | E                                 | E             |
| <b>B</b>       | 4                       | 4                       | 4                                 | 4            | H                                 | H             |
| <b>N</b>       | 5                       | 3                       | 5                                 | 5            | C                                 | C             |
| <b>-</b>       | -                       | -                       | -                                 | -            | -                                 | -             |
| <b>A inv.</b>  | -                       | -                       | 6                                 | 6            | F                                 | F             |
| <b>B inv.</b>  | -                       | -                       | 7                                 | 7            | A                                 | A             |
| <b>N inv.</b>  | -                       | -                       | 8                                 | 8            | D                                 | D             |
| <b>n.</b>      | -                       | 5                       | -                                 | -            | G, J                              | G, J          |
| <b>Shield</b>  | -                       | -                       | -                                 | -            | -                                 | -             |

**Connector (M16x0.75) S3, 7-pin**

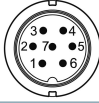


**Description**

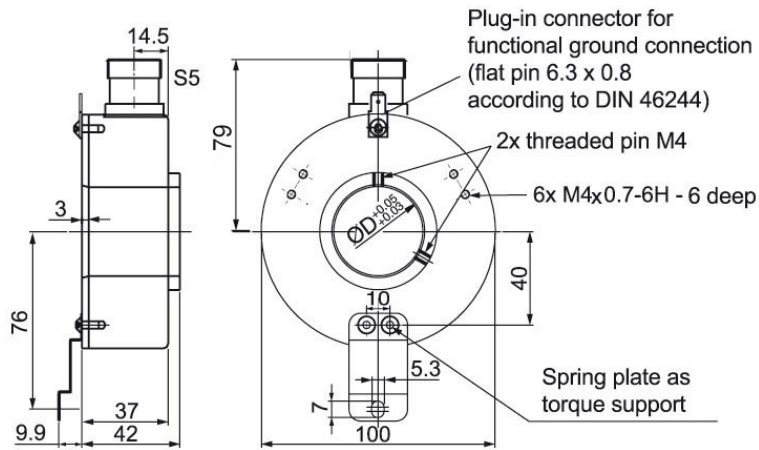
ABN inv. poss.

**S3** radial, 7-pin, Connector connected to encoder housing

-

| Assignments                  |                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------|
|                              | <b>S3</b>                                                                           |
|                              | <b>7-pin</b>                                                                        |
|                              |  |
| <b>Circuit</b>               | F05, H05, F24, H24, H30                                                             |
| <b>GND</b>                   | 1                                                                                   |
| <b>(+) Vcc</b>               | 2                                                                                   |
| <b>A</b>                     | 3                                                                                   |
| <b>B</b>                     | 4                                                                                   |
| <b>N</b>                     | 5                                                                                   |
| <b>Light reserve warning</b> | -                                                                                   |
| <b>A inv.</b>                | -                                                                                   |
| <b>B inv.</b>                | -                                                                                   |
| <b>N inv.</b>                | -                                                                                   |
| <b>n. c.</b>                 | 6, 7                                                                                |
| <b>Shield</b>                | -                                                                                   |

**Connector (M23) S5, 12-pin**



**Description**

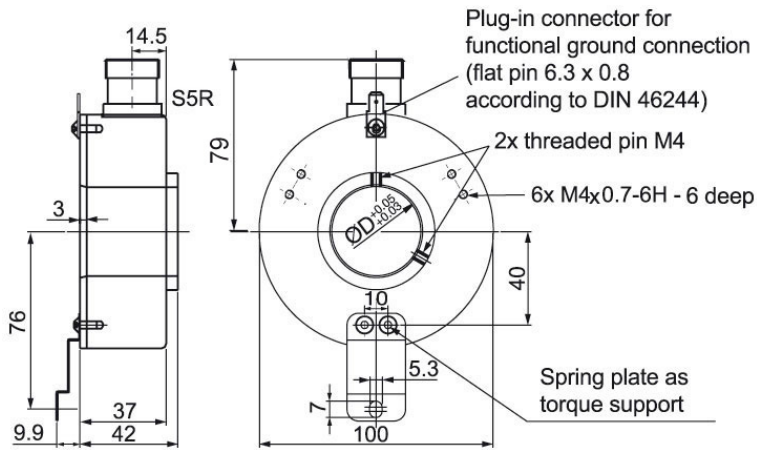
ABN inv. poss.

**S5** radial, 12-pin, Connector connected to encoder housing

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| Assignments |                                                                                     |                                                                                     |                                                                                     |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|             | S5                                                                                  | S5                                                                                  | S5                                                                                  |
|             | 12-pin                                                                              | 12-pin                                                                              | 12-pin                                                                              |
|             |  |  |  |
| Circuit     | F05, H05, F24, H24, H30                                                             | P05, R05, P24, R24, 245, 645, R30                                                   | SIN                                                                                 |
| GND         | 10                                                                                  | 10                                                                                  | 10                                                                                  |
| (+) Vcc     | 12                                                                                  | 12                                                                                  | 12                                                                                  |
| A           | 5                                                                                   | 5                                                                                   | 5                                                                                   |
| B           | 8                                                                                   | 8                                                                                   | 8                                                                                   |
| N           | 3                                                                                   | 3                                                                                   | 3                                                                                   |
| -           | -                                                                                   | -                                                                                   | -                                                                                   |
| A inv.      | -                                                                                   | 6                                                                                   | 6                                                                                   |
| B inv.      | -                                                                                   | 1                                                                                   | 1                                                                                   |
| N inv.      | -                                                                                   | 4                                                                                   | 4                                                                                   |
| n.          | 1, 2, 4, 6, 7, 9, 11                                                                | 2, 7, 9, 11                                                                         | 2, 7, 9, 11                                                                         |
| Shield      | -                                                                                   | -                                                                                   | -                                                                                   |

**Connector (M23) S5R, 12-pin (clockwise)**

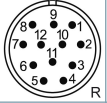
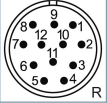
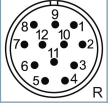


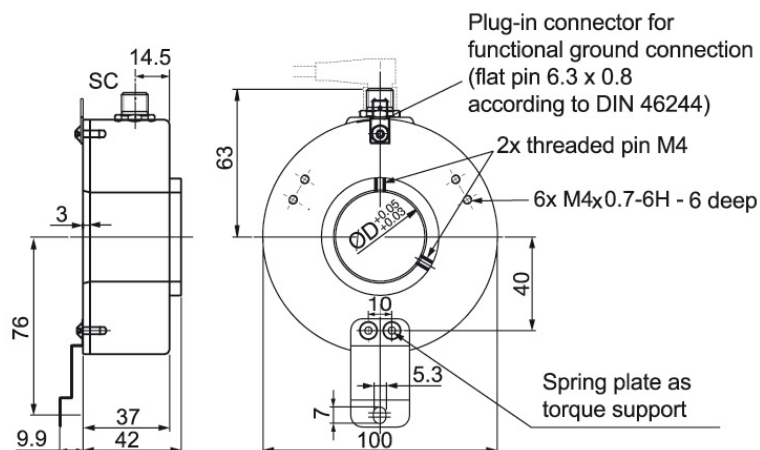
**Description**

ABN inv. poss.

**S5R** radial, 12-pin, Connector connected to encoder housing

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| Assignments |                                                                                     |                                                                                     |                                                                                     |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|             | S5R                                                                                 | S5R                                                                                 | S5R                                                                                 |
|             | 12-pin                                                                              | 12-pin                                                                              | 12-pin                                                                              |
|             |  |  |  |
| Circuit     | F05, H05, F24, H24, H30                                                             | P05, R05, P24, R24, 245, 645, R30                                                   | SIN                                                                                 |
| GND         | 10                                                                                  | 10                                                                                  | 10                                                                                  |
| (+) Vcc     | 12                                                                                  | 12                                                                                  | 12                                                                                  |
| A           | 5                                                                                   | 5                                                                                   | 5                                                                                   |
| B           | 8                                                                                   | 8                                                                                   | 8                                                                                   |
| N           | 3                                                                                   | 3                                                                                   | 3                                                                                   |
| -           | -                                                                                   | -                                                                                   | -                                                                                   |
| A inv.      | -                                                                                   | 6                                                                                   | 6                                                                                   |
| B inv.      | -                                                                                   | 1                                                                                   | 1                                                                                   |
| N inv.      | -                                                                                   | 4                                                                                   | 4                                                                                   |
| n.          | 1, 2, 4, 6, 7, 9, 11                                                                | 2, 7, 9, 11                                                                         | 2, 7, 9, 11                                                                         |
| Shield      | -                                                                                   | -                                                                                   | -                                                                                   |

**Sensor-connector (M12x1) SC, 4-, 5-, 8-, 12-pin**

**Description**
**ABN inv. poss.**

|             |                                                        |   |
|-------------|--------------------------------------------------------|---|
| <b>SC4</b>  | radial, 4-pin, Connector connected to encoder housing  | - |
| <b>SC5</b>  | radial, 5-pin, Connector connected to encoder housing  | - |
| <b>SC8</b>  | radial, 8-pin, Connector connected to encoder housing  | • |
| <b>SC12</b> | radial, 12-pin, Connector connected to encoder housing | • |

| Assignments    |                         |                         |                                   |              |                                   |
|----------------|-------------------------|-------------------------|-----------------------------------|--------------|-----------------------------------|
|                | <b>SC4</b>              | <b>SC5</b>              | <b>SC8</b>                        | <b>SC8</b>   | <b>SC12</b>                       |
|                | <b>4-pin</b>            | <b>5-pin</b>            | <b>8-pin</b>                      | <b>8-pin</b> | <b>12-pin</b>                     |
|                |                         |                         |                                   |              |                                   |
| <b>Circuit</b> | F05, H05, F24, H24, H30 | F05, H05, F24, H24, H30 | P05, R05, P24, R24, R30, 245, 645 | SIN          | P05, R05, P24, R24, 245, 645, R30 |
| <b>GND</b>     | 3                       | 3                       | 1                                 | 1            | 3                                 |
| <b>(+) Vcc</b> | 1                       | 1                       | 2                                 | 2            | 1                                 |
| <b>A</b>       | 2                       | 4                       | 3                                 | 3            | 4                                 |
| <b>B</b>       | 4                       | 2                       | 4                                 | 5            | 6                                 |
| <b>N</b>       | -                       | 5                       | 5                                 | 7            | 8                                 |
| <b>-</b>       | -                       | -                       | -                                 | -            | -                                 |
| <b>A inv.</b>  | -                       | -                       | 6                                 | 4            | 9                                 |
| <b>B inv.</b>  | -                       | -                       | 7                                 | 6            | 7                                 |
| <b>N inv.</b>  | -                       | -                       | 8                                 | 8            | 10                                |
| <b>n.</b>      | -                       | -                       | -                                 | -            | 2, 5, 11, 12                      |
| <b>Shield</b>  | -                       | -                       | -                                 | -            | -                                 |

## Options

### Low temperature

### Order key

The encoder WDG 100H with the output circuit types F24, H24, P24, R24, F05, H05, P05, R05, 245, 645 is also available with the extended temperature range -40 °C up to +80 °C [-40 °F up to +176 °F] (measured at the flange).

**ACA**

### IP55 all around (not 1 Vpp Sin/Cos)

### Order key

The encoder WDG 100H can be supplied in a full IP55 version.

**ACP**

Max. RPM: 1500 rpm

Permitted Shaft-Loading, axial: 100 N [10.197 kp]

Permitted Shaft-Loading, radial: 120 N [12.236 kp]

Max. PPR: 20480 ppr

Starting-torque: approx. 5 Ncm [7.081 in-ozf] at ambient temperature

### Cable length

### Order key

The encoder WDG 100H can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see <https://www.wachendorff-automation.com/download-gtd-incremental-encoders/>

**XXX = Decimeter**

Please extend the standard order code with a three figure number, specifying the cable length in decimetres.

Example: 5 m cable = 050

| Example Order No. Type                                                                                                                  |                                                     | Your encoder     |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------------|--------------------------------------|-----|-----------|----|--|----------|--|--|--|--|--|--|--|--------------|
| WDG 100H WDG 100H                                                                                                                       |                                                     | WDG 100H         |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| Bore size                                                                                                                               |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| 25 25; 28; 30; 32; 38; 40; 42; 45                                                                                                       |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| Pulses per revolution PPR:                                                                                                              |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| 1024 512, 1024, 2048, 2500, 3600, 4096, 4500, 5000, 8192, 10240, 16384, 20480<br>1 Vpp Sin/Cos only 1024, 2048<br>Other PPRs on request |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| Channels:                                                                                                                               |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| ABN AB, ABN                                                                                                                             |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| Output circuit                                                                                                                          |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| H24                                                                                                                                     | Resolution PPR                                      | Power supply VDC | Output circuit                       | -   | Order key |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | up to 2500                                          | 5 - 30           | HTL (TTL at 5 VDC)                   | -   | H30       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     | 5 - 30           | HTL, inv. (TTL/RS422 comp. at 5 VDC) | -   | R30       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | up to 5000                                          | 4.75 - 5.5       | TTL                                  | -   | H05       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     | 4.75 - 5.5       | TTL, RS422 comp., inverted           | -   | R05       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     | 10 - 30          | HTL                                  | -   | H24       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     | 10 - 30          | HTL inverted                         | -   | R24       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     | 10 - 30          | TTL, RS422 comp., inverted           | -   | 245       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | 8192 up to 20480                                    | 4.75 - 5.5       | TTL                                  | -   | F05       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     | 4.75 - 5.5       | TTL, RS422 comp., inverted           | -   | P05       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     | 10 - 30          | HTL                                  | -   | F24       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     | 10 - 30          | HTL inverted                         | -   | P24       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     | 10 - 30          | TTL, RS422 comp., inverted           | -   | 645       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | 1024, 2048                                          | 4.75 - 5.5       | 1 Vpp sin/cos                        | -   | SIN       |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| Electrical connections                                                                                                                  |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| K3                                                                                                                                      | Description                                         | ABN inv. poss.   | Order key                            |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | Cable: length (2 m standard, WDG 58T: 1 m)          |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | radial, shield not connected                        | •                | K3                                   |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | radial, shield connected to encoder housing         | •                | L3                                   |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | Connector: (shield connected to encoder housing)    |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | connector, M16x0.75, 5-pin, radial                  | -                | SH5                                  |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | connector, M16x0.75, 6-pin, radial                  | -                | SH6                                  |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | connector, M16x0.75, 8-pin, radial                  | •                | SH8                                  |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | connector, M16x0.75, 12-pin, radial                 | •                | SH12                                 |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | connector, M16x0.75, 7-pin, radial                  | -                | S3                                   |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | connector, M23, 12-pin, radial                      | •                | S5                                   |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | connector, clockwise pin count, M23, 12-pin, radial | •                | S5R                                  |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | sensor-connector, M12x1, 4-pin, radial              | -                | SC4                                  |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | sensor-connector, M12x1, 5-pin, radial              | -                | SC5                                  |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | sensor-connector, M12x1, 8-pin, radial              | •                | SC8                                  |     |           |    |  |          |  |  |  |  |  |  |  |              |
| sensor-connector, M12x1, 12-pin, radial                                                                                                 | •                                                   | SC12             |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| Options                                                                                                                                 |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | Description                                         | Order key        |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | Low temperature                                     | ACA              |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | IP55                                                | ACP              |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | Without option                                      | Empty            |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         | Cable length                                        | XXX = Decimeter  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
|                                                                                                                                         |                                                     |                  |                                      |     |           |    |  |          |  |  |  |  |  |  |  |              |
| Example Order No.=                                                                                                                      | WDG 100H                                            | 25               | 1024                                 | ABN | H24       | K3 |  | WDG 100H |  |  |  |  |  |  |  | Your encoder |



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