



Online Data Sheet

Encoder WdGI 58A

www.wachendorff-automation.com/wdgi58a

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 WDGI 58A



- Robust construction for industrial use
- Housing cap die cast aluminum, with particularly eco-friendly powder coating
- Up to 25000 PPR by use of high grad electronics
- Protection to IP67, shaft sealed to IP65
- High electrical immunity
- Full connection protection with 10 VDC up to 30 VDC
- High output frequency 600 kHz/2 MHz
- Optional: -40 °C up to +85 °C, Pressure equalising membrane

www.wachendorff-automation.com/wdgi58a

Resolution

| | |
|--------------------------------|----------|
| Max. pulses per revolution PPR | 4096 ppr |
|--------------------------------|----------|

Mechanical Data

Housing

| | |
|-----------------|----------------------------------|
| Flange | synchro flange |
| Flange material | aluminum |
| Housing cap | die cast aluminum, powder coated |
| Housing | Ø 58 mm |
| Cam mounting | pitch 69 mm |

Shaft(s)

| | |
|-----------------|--|
| Shaft material | stainless steel |
| Starting torque | approx. 0.5 Ncm at ambient temperature |

| | |
|-------|--------|
| Shaft | Ø 6 mm |
|-------|--------|

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|--------------|----------|
| Shaft length | L: 12 mm |
|--------------|----------|

| | |
|---------------------------------------|-------|
| Max. Permissible shaft loading radial | 125 N |
|---------------------------------------|-------|

| | |
|--------------------------------------|------|
| Max. Permissible shaft loading axial | 70 N |
|--------------------------------------|------|

Bearings

| | |
|-----------------------|--|
| Bearings type | 2 precision ball bearings |
| Nominale service life | 3 x 10 ⁸ revs. at 100 % rated shaft load 5 x 10 ⁹ revs. at 40 % rated shaft load 4 x 10 ¹⁰ revs. at 20 % rated shaft load |

| | |
|----------------------|-----------|
| Max. operating speed | 10000 rpm |
|----------------------|-----------|

Machinery Directive: basic data safety integrity level

| | |
|------------------------------|---|
| MTTF _d | 200 a |
| Mission time (TM) | 25 a |
| Nominale service life (L10h) | 4 x 10 ¹⁰ revs. at 20 % rated shaft load and 10000 rpm |
| Diagnostic coverage (DC) | 0 % |

Electrical Data

| | |
|---------------------|-------------------------------|
| Power supply VDC | 10 - 30 VDC |
| Current consumption | typ. 70 mA |
| Signal shape | square-wave |
| Output circuit | HTL inverted |
| Channels | AB, ABN, and inverted signals |
| Output | push-pull |
| Load | max. 40 mA / channel |
| Signal level mA | at 20 mA |

| | |
|-----------------|-------------------------------|
| Signal level H> | H > V _{cc} - 2.5 VDC |
|-----------------|-------------------------------|

| | |
|-----------------|-------------|
| Signal level L< | L < 2.5 VDC |
|-----------------|-------------|

| | |
|------------------|--------------|
| Output frequency | max. 200 kHz |
|------------------|--------------|

| | |
|--------------------|-----|
| Circuit protection | yes |
|--------------------|-----|

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|-----------------------|-----|
| Light reserve warning | yes |
|-----------------------|-----|

General Data

| | |
|--------|---------------|
| Weight | approx. 230 g |
|--------|---------------|

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|-------------|---------------------------|
| Connections | cable or connector outlet |
|-------------|---------------------------|

| | |
|------------------------------|--|
| Protection rating (EN 60529) | Housing: IP65, IP67; shaft sealed: IP65 |
|------------------------------|--|

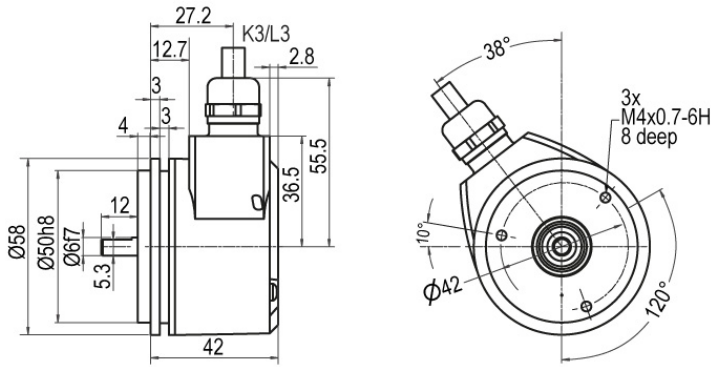
| | |
|-----------------------|--|
| Operating temperature | Connector: -40 °C up to +85 °C, cable: -20 °C up to +80 °C, (Option ACA: -40 °C up to +85 °C) 1 V _{pp} : -10 °C up to +70 °C |
|-----------------------|--|

| | |
|---------------------|---|
| Storage temperature | Connector: -30 °C up to +85 °C, cable: -30 °C up to +80 °C, option ACA: -40 °C up to +85 °C |
|---------------------|---|

More Information

General technical data and safety instructions
<http://www.wachendorff-automation.com/gtd>

Options
<http://www.wachendorff-automation.com/acc>

WDGI 58A: Cable connection K3, L3, radial, with 2 m cable

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

•

| Assignments | |
|------------------------------|-----------------|
| | K3 |
| Circuit | I24 |
| GND | WH |
| (+) Vcc | BN |
| A | GN |
| B | YE |
| N | GY |
| Light reserve warning | PK |
| A inv. | RD |
| B inv. | BK, (BU at ACA) |
| N inv. | VT |
| Shield | flex |

Options

Low-friction bearings

The encoder WDG1 58A is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.25 Ncm and the protection class at the shaft input to IP50.

Order key

AAC

Low temperature

The encoder WDG1 58A with the output circuit types F24, G24, H24, I24, P24, R24, F05, G05, H05, I05, P05, R05, 245, 524, 645 is also available with the extended temperature range -40 °C up to +85 °C [-40 °F up to +185 °F] (measured at the flange).

Order key

ACA

Pressure equalising membrane

The WDG1 58A shaft encoder is also optionally available with a pressure equalising membrane. This prevents water from penetrating into the encoder housing in the case of high air humidity.

The IP67 protection level, temperature range and salt spray resistance are maintained. Resistant to chemicals and solvents in accordance with DIN EN ISO 2812-1.

Order key

ACR

Cable length

The encoder WDG1 58A can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see www.wachendorff-automation.com/atd

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

Example: 5 m cable = 050

Order key

XXX = Decimeter

| Example Order No. | Type | | | | | Your encoder |
|-------------------|--|-------------------------|-----------------------|------------------------------|------------------|--------------|
| WDGI 58A | WDGI 58A | | | | | WDGI 58A |
| | Shaft | | | | | |
| 06 | 06 | | | | | 06 |
| | Pulses per revolution PPR: | | | | | |
| 4096 | 4096 | | | | | 4096 |
| | Channels: | | | | | |
| ABN | ABN | | | | | ABN |
| | Output circuit | | | | | |
| I24 | Resolution PPR | Power supply VDC | Output circuit | Light reserve warning | Order key | I24 |
| | up to 5000 | 10 - 30 | HTL inverted | • | I24 | |
| | Electrical connections | | | | | |
| K3 | Description | | | ABN inv. poss. | Order key | K3 |
| | Cable: length (2 m standard, WDG 58T: 1 m) radial, shield not connected | | | • | K3 | |
| | Options | | | | | |
| | Description | | | Order key | | |
| | Low-friction bearings | | | AAC | | |
| | Low temperature | | | ACA | | |
| | Pressure equalising membrane | | | ACR | | |
| | Cable length | | | Cable length | | |
| | Without option | | | Empty | | |

| | | | | | | | | | | | | | | | |
|---------------------------|----------|----|------|-----|-----|----|--|----------|----|------|-----|-----|----|--|---------------------|
| Example Order No.= | WDGI 58A | 06 | 4096 | ABN | I24 | K3 | | WDGI 58A | 06 | 4096 | ABN | I24 | K3 | | Your encoder |
|---------------------------|----------|----|------|-----|-----|----|--|----------|----|------|-----|-----|----|--|---------------------|



For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
<https://www.wachendorff-automation.com/>



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