WACHENDORFF
The Encoder Experts

**Wachendorff Automation GmbH & Co. KG**
Industriestraße 7 • D-65366 Geisenheim
Tel.: +49 (0) 67 22 / 99 65 -25 • Fax: +49 (0) 67 22 / 99 65 -70
support-wa@wachendorff.de • www.wachendorff-automation.com

# Installation Kit for frequency-control lifts WDGAK58B with shaft encoder

The following installation kits are available for fitting the encoder to a frequency controlled lift. Every installation kit consists:
1 x Encoder, 1 x Mountingangle, 1 x shielded cable 15 m length, 1 x double loop coupling, 5 x Shaftadapter

**Mechanical Data**

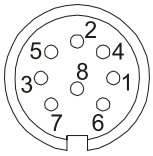
| | |
|---|---|
| Housing | |
| - Clamping flange: | Aluminium |
| - Cap: | die cast aluminum, powder coated |
| - Durchmesser: | 58 mm |
| Shaft | |
| - Material: | stainless steel |
| - Diameter: | 10 mm, H7 |
| - Lenght: | 20 mm |
| - Permitted load | max. 220 N radial |
| Load: | max. 120 N axial |
| - Starting torque: | approx. 1 Ncm at ambient temperature |
| Bearings | |
| - Type: | 2 precision ball bearings |
| - Service life: | 1x $10^9$ U revs. at 100 % shaft load |
| | 1x $10^{10}$ U revs. at 40 % shaft load |
| | 1x $10^{11}$ revs. at 20 % shaft load |
| Max. operating speed: | 8000 rpm |
| Weight: | approx. 250 g |
| Connections: | SH8: radial connector, 8 pin |

| | |
|---|---|
| Operating temperature: | -20 °C up to +80 °C |
| Storage temperature: | -30 °C up to +80 °C |
| **Machinery Directive:** | **basic data safety integrity level** |
| $MTTF_d$: | 200 a |
| Mission time ($T_M$): | 25 a |
| Nominale service life ($L_{10}h$): | 1x $10^{11}$ revs. at 8000 rpm and 20 % rated shaft load |
| Diagnostic coverage: (DC) | 0 % |
| Encoder-Order No.: | WDGI58B-10-YYYYY-ABN-M35-SH8<br>- YYYYY: with 1 up to 16384 PPR<br>- 6 channels, A, B, zero marker pulse N + Inv.<br>- 4.75 VDC up to 30 VDC HTL (TTL at 5 VDC) with inv. output<br>- SH8: radial connector, 8 pin |

YYYYY: Please specify required PPR.

Pin identification SH8:

| Function | PIN |
|---|---|
| Positive | 2 |
| Negative | 1 |
| A | 3 |
| A inv. | 6 |
| B | 4 |
| B inv. | 7 |
| N | 5 |
| N inv. | 8 |

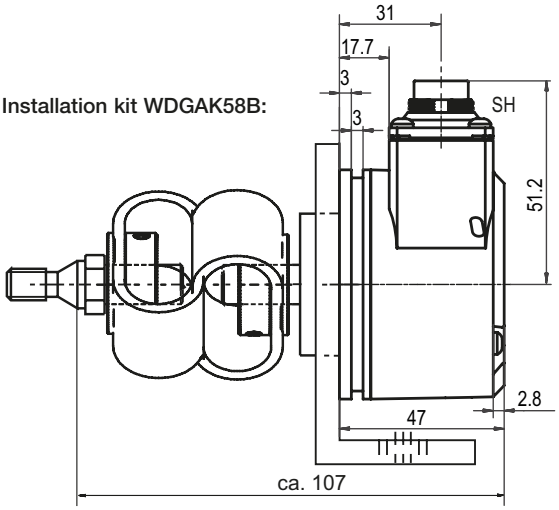



The view of the soldered side of the connector connector corresponds to the view of the pin arrangement on the encoder.

- Complete retrofit set
- Quickly and reliably fitted with the aid of the accessories
- Cost-effective modernisation solution
- HTL output (TTL at 5 VDC)
- Threads: M8, M10, M12, M16 und M20

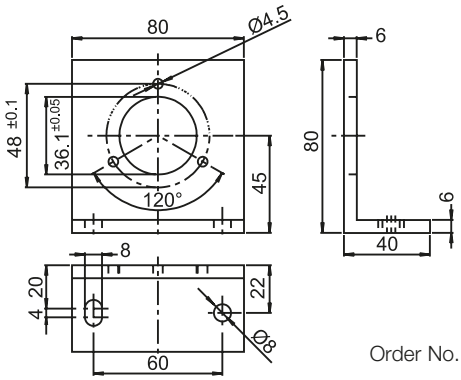
www.wachendorff-automation.com/wdgak58b

**Installation kit WDGAK58B:**



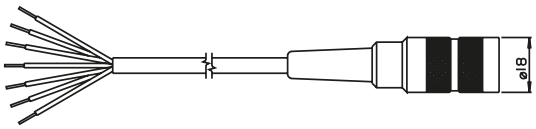

(in use with shaft adapter M8)

**Mounting bracket:**
The mounting bracket makes for easy installation of the encoder in the lift system. However care should be taken that the admissible load of the coupling is adhered to.




Order No.: MW58B

**Cable:**
The cable is 15 m in length and is shielded, however the shield is not connected to the connector housing at TTL/HTL. With a mated connector, the encoder meets protection class IP40.



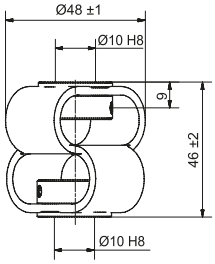

The cable has a connection as follows:

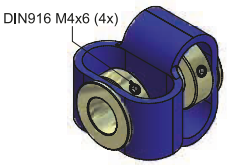
| Function | Colour |
|---|---|
| Positive | brown |
| Negative | white |
| A | green |
| A inv. | red |
| B | yellow |
| B inv. | black |
| N | gray |
| N inv. | violet |
| Shield: | cable braiding |

Order No: KD84015

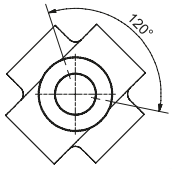
**Double loop coupling:**
The double loop coupling serves to compensate for any mis-alignment between the drive and the encoder. The coupling has extremely high compensation capabilities.

| | |
|---|---|
| Features: | excellent compensation capabilities |
| Max. offset of shafts: | axial: max. ±4 mm |
| | radial: max. ±3 mm |
| | angular: ± 12° |
| Max. operating speed: | 3000 rpm |
| Starting torque: | max. 200 Ncm |
| Material: | |
| - Hub: | zinc-plated |
| - Compensating element: | polyurethan |
| Weight: | 85 g |
| Fixing: | DIN 916 M4x6 (4x) |
| Operating temperature: | -30 °C up to +80 °C |



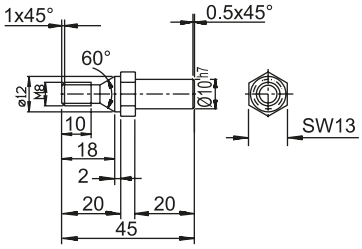




Order No.: DSK481010

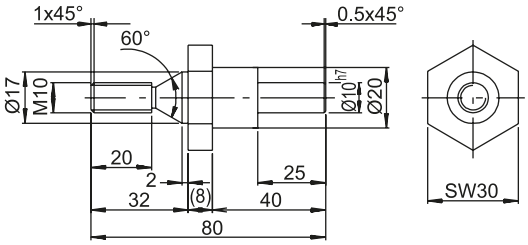



**Shaft adapters**

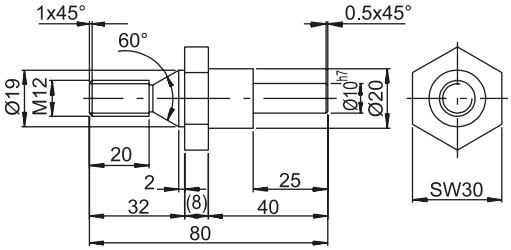
**Shaft adapters:**
The shaft adapters are screwed into an appropriate thread on the lift and allow a simple connection via the double loop coupling.



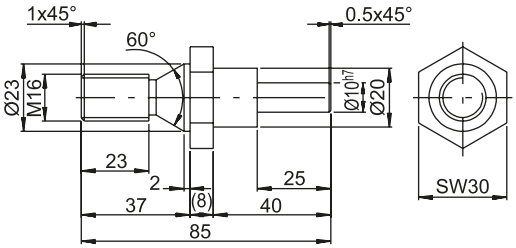

Shaft adapter M8 Order No.: WDGWA10M08



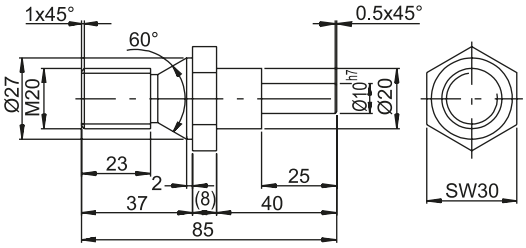

Shaft adapter M10 Order No.: WDGWA10M10




Wellenadapter M12 Bestell-Nr.: WDGWA10M12




Shaft adapter M16 Order No.: WDGWA10M16




Shaft adapter M20 Order No.: WDGWA10M20

**Note:**
YYYYY: Please specify required PPR.

**Ordering information installation kit WDGAK58B:**

| Description: | Order No.: |
|---|---|
| **Installation kit comprising:**<br>- WDGI58B-10-YYYYY-ABN-M35-SH8<br>  - YYYYY: with 1 PPR to 16.384 PPR<br>  - 6 channels, A, B, N, $\overline{A}$, $\overline{B}$, $\overline{N}$<br>  - M35: 4,75 VDC up to 30 VDC HTL with inv. output circuit (TTL at 5 VDC, RS422 )<br>  - SH8: radial connector, 8 pin<br>- MW58B: Mounting angle<br>- KD84015: 15 m ready-made cable<br>- DSK481010: Double loop coupling<br>- Shaft adapter: 08, 10, 12, 16, 20 | WDGAK58BYYYYYM35 |

**Customs tariff number:** **90318020**
**Country of origin:** **Germany**

WACHENDORFF

**Wachendorff Automation GmbH & Co. KG**
Industriestraße 7 • D-65366 Geisenheim
Tel.: +49 (0) 67 22 / 99 65 -25
Fax: +49 (0) 67 22 / 99 65 -70
eMail: wdg@wachendorff.de
www.wachendorff-automation.de

# Montageanleitung Vollwellengeber WDG/WDGI,

Assembly instructions shaft encoder, Notice de montage codeur rotatif à arbre plein,
Instrucciones de montaje encoder ad albero pieno, istruzioni di montaggio encoders de eje saliente.

WDGI (**Stecker,** connector, connecteur, conector, spina):
-40 °C ... +85 °C (-40 °F ... +185 °F)
WDG* + WDGI** (**Kabel,** cable, Câble, Cable, cavo):
-20 °C ... +80 °C (-4 °F ... +176 °F)
Option: * -40 °C ... +80 °C (-40 °F ... +176 °F)
** -40 °C ... +85 °C (-40 °F ... +185 °F)
1Vss (1Vpp): -10 °C ... +70 °C (14 °F ... +158 °F)
58T: -10 °C ... +70 °C (58T: +14 °F ... +158 °F)

°C (°F)

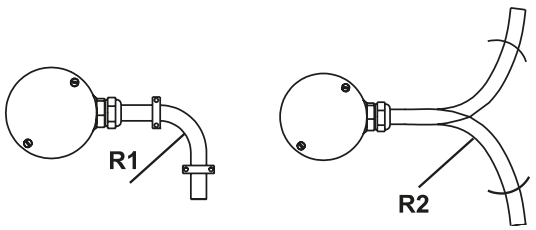
-30 °C...+80 °C
(-22 °F...+176 °F)

**Montage nur qualifiziertes Personal,** Assembly only qualified personnel, Montage pair qualifié personnel, Montaggio solo personale qualificato, Montaje solamente personal cualificado

**Sicherheitsmassnahmen/Safety instructions:** Einsatz nur in Industrieumgebung und NICHT im sicherheitsrelevanten Bereich. Only for use in industrial environments and NOT for safety-relevant areas. Utilisation uniquement dans un environnement industriel et PAS dans un domaine lié à la sécurité. Utilícelo sólo en entornos industriales y NO en áreas relevantes para la seguridad. Utilizzare solo in ambienti industriali e NON in aree riguardanti la sicurezza.

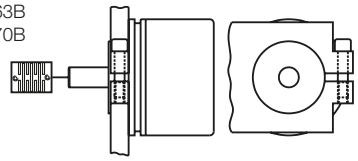
**Power supply: Class 2/LPS only**

DIN EN 100015-1

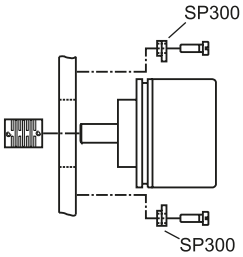



| **Kabel ø** cable, Câble, Cable, cavo | R1 | R2 | **Temperatur** Temperature, Température, Temperatura, Temperatura |
|---|---|---|---|
| ≤ 7 mm | 31,5 mm | 94,5 mm | T > -20 °C (-4 °F) |
| > 7 mm | 41,5 mm | 124,5 mm | T > -20 °C (-4 °F) |
| ≤ 7 mm | 46,5 mm | 139,5 mm | T > -40 °C (-40 °F) |
| > 7 mm | 62,3 mm | 186,9 mm | T > -40 °C (-40 °F) |

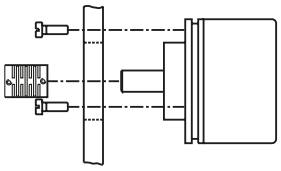
36C 58N
36K 58S
40K 58T
58B 58V
58D 63B
58K 70B



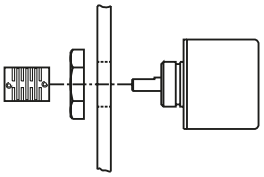
36A 58C
36J 58D
40A 58K
50B 58N
58A 58T
58B 63B



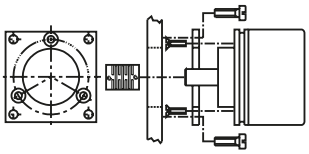

24C 58B
30A 58C
36A 58D
36C 58K
36J 58N
36K 58S
40A 58T
40K 58V
50B 63B
58A 70B



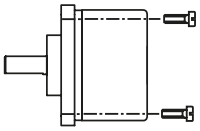
36S
40S
50V
53S
53V



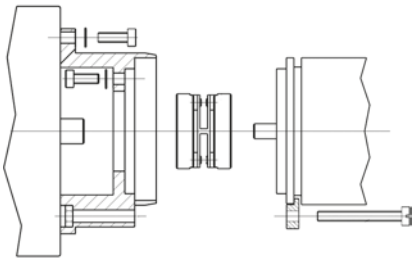
58B
58D
58K
58N
58S
58T
58V



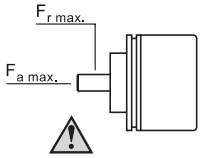
63Q
67Q
115T
115M



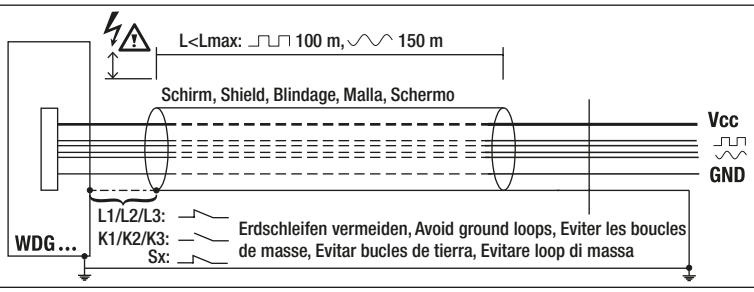
58A + MG58A



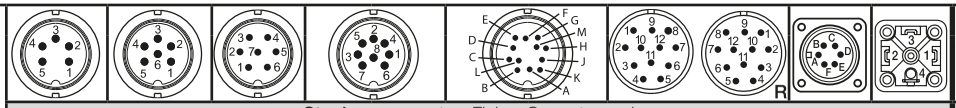
| **Standard (no IP67)** | $F_r$ max. | $F_a$ max. |
|---|---|---|
| 24C, 30A, 36C/K/S, 40A/K/S, 58K | 80 N | 50 N |
| 36A 6 mm, 1/4" | 80 N | 50 N |
| 36A 8 mm | 50 N | 50 N |
| 36J | 300 N | 300 N |
| 50B | 120 N | 70 N |
| 50V, 53S, 53V | 20 N | 10 N |
| 58A | 125 N | 70 N |
| 58B,N,T, | 220 N | 120 N |
| WDG58D | 400 N | 400 N |
| WDGI58D | 500 N | 500 N |
| 63B/Q, 67Q | 220 N | 120 N |
| 70B | 200 N | 150 N |
| 115T/M, 58C | 200 N | 120 N |
| 58S, 58V | 100 N | 100 N |

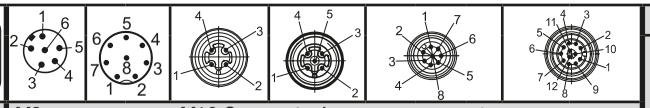



| **Gewinde (8.8)** Screw thread, Filet, Rosca, filetto | **Empfohlenes Anzugsdrehmoment** Recommended starting torque Moment de rotation recommandé appliqué à l'écrou Par de apriete recomendado coppia di spunto consigliata |
|---|---|
| M2.5 | 1.5 Nm |
| M3 | 1 Nm |
| M4 | 2 Nm |
| M5, M14 | 3 Nm |
| M6 | 6 Nm |
| **Mutter,** Screw nut, écrou, Tuerca, dado, M20x1,5 | 8 Nm |

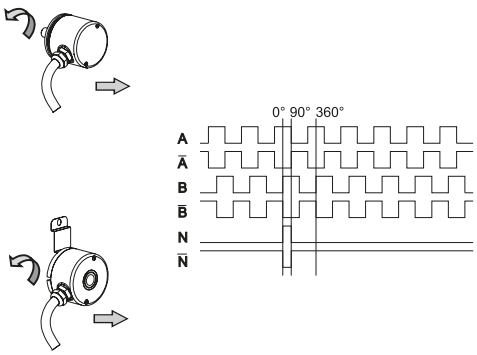



| **Frühwarnausgang** Early-warning output Sortie d'alerte Salida de advertencia prematura uscita di preavvertimento | | **IRLED** | **IRLED** |
|---|---|---|---|
| **Schaltung** Circuit Couplage Conmutación collegamento | **G24, I24, G05, I05, 524** | **high** | **low** |

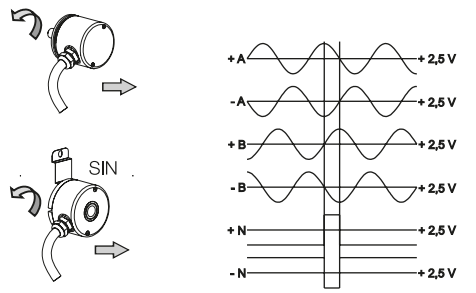




| | Stecker, connector, Fiche, Conector, spina | | | | | | | | | | | M8- | | | M12-Sensorstecker, sensor-connector, Fiche de palpeur, Conecto de sonda, spina sensore | | | | | | | Kabel, cable, Câble, Cable, cavo | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | ACA: 24C 30A 40 | | ACA: 58, 63, 67, 70, 115 | | 58S/V |
| | SI5 axial, SH5 radial, 5-pin | SI6 axial, SH6 radial, 6-pin | S2 axial, S3 radial, 7-pin | SI8 axial, SH8 radial, 8-pin | | SI12 axial, SH12 radial, 12-pin | | S4 axial, S4R axial S5 radial, S5R radial 12-pin | | S6 radial, 6-pin | S7 axial, 4-pin | SK6 axial, 6-pin | SK8 axial, 8-pin | | SB4 axial, SC4 radial, 4-pin | SB5 axial, SC5 radial, 5-pin | SB8 axial, SC8 radial, 8-pin | | | SB12 axial, SC12 radial, 12-pin | | K2/L2 axial; K3/L3 radial T3 tangential K1/K7/L7 | | | | | | |
| **Schaltung** Circuit Couplage Conmutación collegamento | F/H/05 F/H24 H30 N35 | G/F/H/05 G/F/H24 H30 N35 | G/F/H/05 G/F/H24 H30 N35 | F/H05 F/H24 H30 N35 | P/R05 P/R24 245/645 SIN R30 M35 | G/F/H05 G/F/H24 H30 N35 | I/P/R05 I/P/R24 245, 524 645 SIN, SIF R30 M35 | G/F/H05 G/F/H24 H30 N35 | I/P/R05 I/P/R24 245, 524 645 SIN, SIF R30 M35 | G/F/H/05 G/F/H24 H30 N35 | F/H/05 F/H24 H30 N35 | N05 N30 | N05 N30 | M05 M30 | F/H/05 F/H24 H30 N35 | F/H/05 F/H24 H30 N35 | F05 H05 F24 H24 H30 N35 | P05 R05 P24 R24 R30 245 645 M35 | Sinus | G/F05/ H05 G/F24/ H24 H30 N35 | I/P/R05 I/P/R24 245 524 645 R30 M35 | G/F/H05 G/F/H24 H30 N05 N30 N35 | R30 M05 M30 | M05 M30 R24 M35 | I/R/P05 I/R/P24 245 524 645 R30 M35 | I/R/P05 I/R/P24 245 524 645 M35 | SIN SIF | I/R/P05 I/R/P24 245 524 645 R30 |
| **Minus U-** | 1 | 6 | 1 | 1 | 1 | K / L | K / L | 10 | 10 | A | 1 | 3 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 3 | 3 | WH | WH | WH | WH | WH | WH | WH |
| **Plus U+** | 2 | 1 | 2 | 2 | 2 | M / B | M / B | 12 | 12 | F | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | BN | BN | BN | BN | BN | BN | BN |
| **A** | 3 | 2 | 3 | 3 | 3 | E | E | 5 | 5 | C | 3 | 4 | 3 | 3 | 2 | 4 | 3 | 3 | 3 | 4 | 4 | GN | GN | GN | GN | GN | GN | GN |
| **B** | 4 | 4 | 4 | 4 | 4 | H | H | 8 | 8 | B | 4 | 5 | 4 | 4 | 4 | 2 | 4 | 4 | 5 | 6 | 6 | YE | YE | YE | YE | YE | GY | YE |
| **N** | 5 | 3 | 5 | 5 | 5 | C | C | 3 | 3 | D | - | 1 | 5 | 5 | - | 5 | 5 | 5 | 7 | 8 | 8 | GY | GY | GY | GY | GY | BK | GY |
| **Frühwarn-ausgang*1** | - | 5 | 6 | - | - | G | G | 11 | 11 / SIF 7 | E | - | - | - | - | - | - | - | - | - | 5 | 5 | PK | - | - | PK | PK | RD | PK |
| **A inv.** | - | - | - | - | 6 | - | F | - | 6 | - | - | - | - | 6 | - | - | - | 6 | 4 | - | 9 | - | RD | RD | RD | RD | YE | RD |
| **B inv.** | - | - | - | - | 7 | - | A | - | 1 | - | - | - | - | 7 | - | - | - | 7 | 6 | - | 7 | - | PK | BK | BK | BU | PK | BU |
| **N inv.** | - | - | - | - | 8 | - | D | - | 4 | - | - | - | - | 8 | - | - | - | 8 | 8 | - | 10 | - | BU | VT | VT | VT | VT | VT |
| **n. c.** | - | - | 7 | 6, 7, 8 | - | A, D, F, J | J | 1, 2, 4, 6, 7, 9 | 2, 7, 9 / Sinus 2, 9, 11 | - | - | 6 | 6, 7, 8 | - | - | - | 6, 7, 8 | - | - | 2, 7, 9, 10, 11, 12 | 2, 11, 12 | - | - | - | - | - | - | - |
| **Schirm*2** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | Litze, Flex, Toron, Cordón, Cavetto | | | | | | |




| | $U_B$ | $I_{supply}$ | Output | $I_{OUT,max}$ |
|---|---|---|---|---|
| R30, H30, N30, M30 | 5...30 VDC | ≤70 mA | H>UB-10% UB L<2,5VDC | 40 mA |
| N35, M35 | 4,75...30 VDC | N05, N30, N35, M05, M30, M35 ≤ 40 mA | | |
| G24, H24, F24, I24, R24, P24 | 10...30 VDC | | H>UB-2,5VDC L<2,5VDC | N05, N30, M05, M30 = 30 mA |
| 245, 524, 645 | | P05, P24, F05, F24, 645 ≤ 100 mA | H>2,5VDC L<1,2VDC | |
| G05, H05, F05, I05, R05, N05, M05, P05 | 4,75...5.5 VDC | | H>2,5VDC L<0,5VDC | |
| **Bemerkungen** Remarks Notas Observaciones osservazioni | ⚠ | **Ohne Last** Without load resistance Sans charge Sin carga senza caric | | **Pro Kanal** Per channel Par canal Por canal Per canale |




| | $U_B$ | $I_{supply}$ | Output |
|---|---|---|---|
| SIN, SIF | 4,75...5,5 VDC | ≤100mA | 1V peak to peak +/- 25% |
| **Bemerkungen** Remarks Notas Observaciones osservazioni | ⚠ | **Ohne Last** Without load resistance Sans charge Sin carga senza carico | **Symetrisch an** Symetrically at Symétrique à Simétrico en simmetrico su $Z_L$=120 Ohm |

*1 **Frühwarnausgang nur bei**
Early-warning output only for
Sortie d'alerte précoce
Salida de advertencia prematura
uscita di preavvertimento
**G24, I24, G05, I05, 524, SIF**

*2 **Schirm**
Shield
Blindage
Malla
Schermo

**Steckergehäuse aus Kunststoff (S7)**
Plastic connector housing (S7)
Boîtier de connexion en matière plastique (S7)
Caja de conector de plástico (S7)
scatola prese in plastica (S7)

**WH: weiss,** white, blanc, blanco, bianco
**BN: braun,** brown, brun, marrón, marrone
**GN: grün,** green, vert, verde, verde
**YE: gelb,** yellow, jaune, amarillo, giallo
**GY: grau,** grey, gris, gris, grigio
**PK: rosa,** pink, rose, rosa, rosa
**RD: rot,** red, rouge, rojo, rosso
**BK: schwarz,** black, noir, negro, nero
**BU: blau,** blue, bleu, azul, blu
**VT: violett,** violet, violet, violeta, violetto
**Litze: Litze,** Flex, Toron, Cordón, Cavetto

**Steckergehäuse/Schirm mit Gebergehäuse leitend verbunden. (Nicht S7, K1, K2, K3)**
Connector housing/shield electrically connected to encoder housing (not S7, K1, K2, K3)
Boîtier de connexion/Ecran avec boîtier d'ementteur liés de manière conductrice (No S7, K1, K2, K3)
Caja de conector/Malla conectada en conductancia com caja de transmisor (No S7, K1, K2, K3)
Scatola prese/Schermo con scatola trasmettitore collegata da condurre (No S7, K1, K2, K3)


**WACHENDORFF**

**www.wachendorff-automation.de**
**www.wachendorff-automation.com**

**Technical Support**
Germany:
Tel.: +49 (0)67 22 / 99 65 131
Fax: +49 (0)67 22 / 99 65 70
eMail: support-wa@wachendorff.de

Other countries, please contact your distributor.
Autres pays, veuillez contacter votre distributeur.
Otros países, rogamos contacten a su distribuidor.
Per gli altri paesi si prega di contattare il vostro distributore.