

# Online Data Sheet

## Encoder WDGI 58N

[www.wachendorff-automation.com/wdgi58n](http://www.wachendorff-automation.com/wdgi58n)

### **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 58N



- Rugged industrial standard encoder
- 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
- Maximum mechanical and electrical safety
- Full connection protection with 10 VDC up to 30 VDC
- High output frequency 600 kHz/2 MHz
- Optional:
  - 40 °C up to +85 °C,
  - Protection to IP67 all around,
  - Pressure equalising membrane

[www.wachendorff-automation.com/wdgi58n](http://www.wachendorff-automation.com/wdgi58n)

## Resolution

Max. pulses per revolution PPR	up to 25000 PPR
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## Mechanical Data

### Housing

Flange	clamping 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. 1 Ncm at ambient temperature

Shaft	Ø 6 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 8 mm
Shaft length	L: 20 mm

Shaft	Ø 9.525 mm, Ø 3/8"
Shaft length	L: 22.3 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N

### Bearings

Bearings type	2 precision ball bearings
Nominale service life	1 x 10 <sup>9</sup> revs. at 100 % rated shaft load 1 x 10 <sup>10</sup> revs. at 40 % rated shaft load 1 x 10 <sup>11</sup> revs. at 20 % rated shaft load
Max. operating speed	8000 rpm

## Machinery Directive: basic data safety integrity level

MTTF <sub>d</sub>	200 a
Mission time (TM)	25 a
Nominale service life (L10h)	1 x 10 <sup>11</sup> revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

## Electrical Data

Power supply/Current consumption	4,75 VDC up to 5,5 VDC: typ. 100 mA
Power supply/Current consumption	5 VDC up to 30 VDC: typ. 70 mA
Power supply/Current consumption	10 VDC up to 30 VDC: typ. 100 mA
Output circuit	TTL TTL, RS422 compatible, inv. HTL HTL, inv. 1 Vpp sin/cos
Pulse frequency	TTL 5000 ppr: max. 200 kHz HTL 5000 ppr: max. 200 kHz TTL more than 1200 ppr: max. 2 MHz HTL more than 1200 ppr: max. 600 kHz 1 Vpp sin/cos: max. 100 kHz
Channels	AB ABN and inverted signals
Load	max. 40 mA / channel @ 1 Vpp sin/cos: min. 120 Ohm
Circuit protection	10 VDC up to 30 VDC, HTL only

## Accuracy

Phase offset	90° ± max. 7.5 % of the pulse length
pulse-/pause-ratio	5000 ppr: 50 % ± max. 7 % >5000 ppr: 50 % ± max. 10 %

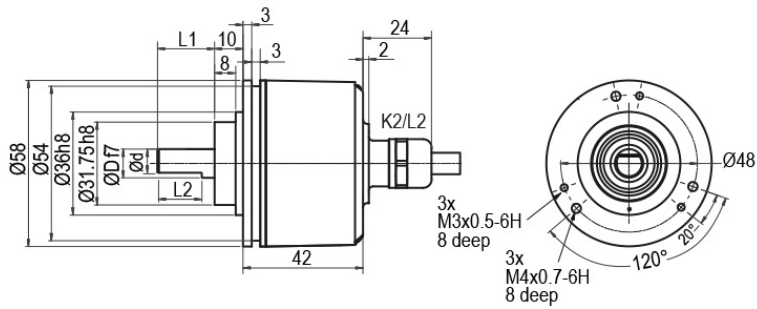
## General Data

Weight	approx. 250 g
Connections	cable or connector outlet
Protection rating (EN 60529)	IP67, shaft sealed to IP65
Operating temperature	Connector: -20 °C up to +85 °C, cable: -20 °C up to +80 °C, (Option ACA: -40 °C up to +85 °C) 1 Vpp: -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>

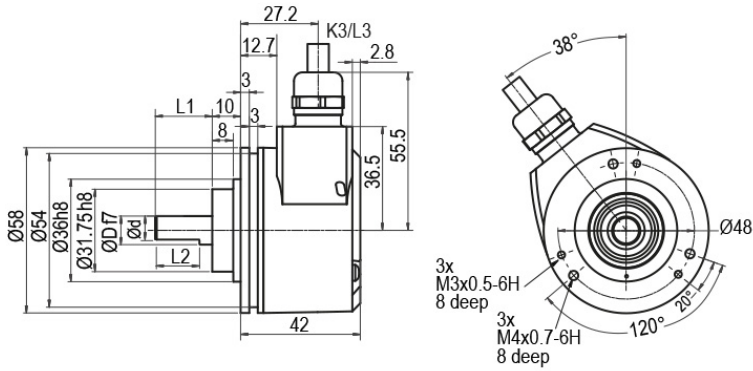
**WDGI 58N: Cable connection K2, L2, axial, with 2 m cable**


D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

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

<b>K2</b>	axial, shield not connected	•
<b>L2</b>	axial, shield connected to encoder housing	•

Assignments					
	K2, L2	K2, L2	K2, L2	K2, L2	L2
<b>Circuit</b>	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30	SIN
<b>GND</b>	WH	WH	WH	WH	WH
<b>(+) Vcc</b>	BN	BN	BN	BN	BN
<b>A</b>	GN	GN	GN	GN	GN
<b>B</b>	YE	YE	YE	YE	GY
<b>N</b>	GY	GY	GY	GY	-
<b>Light reserve warning</b>	PK	-	PK	-	-
<b>A inv.</b>	-	-	RD	RD	YE
<b>B inv.</b>	-	-	BK, (BU at ACA)	BK, (BU at ACA)	PK
<b>N inv.</b>	-	-	VT	VT	-
<b>Shield</b>	flex	flex	flex	flex	flex

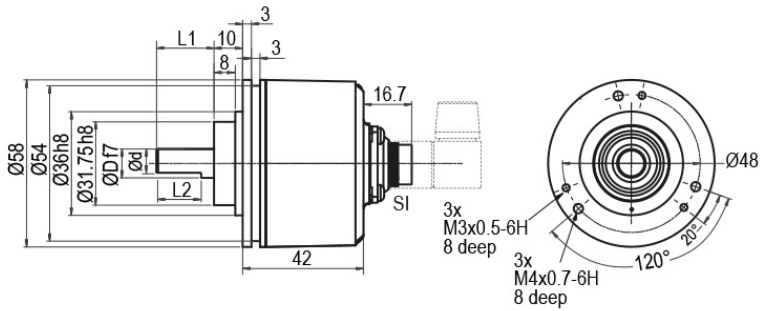
**WDGI 58N: Cable connection K3, L3, radial, with 2 m cable**


D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

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

<b>K3</b>	radial, shield not connected	•
<b>L3</b>	radial, shield connected to encoder housing	•

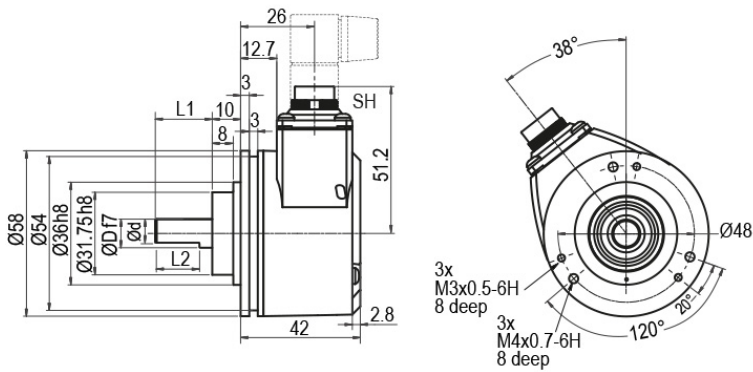
Assignments					
	K3, L3	K3, L3	K3, L3	K3, L3	L3
<b>Circuit</b>	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30	SIN
<b>GND</b>	WH	WH	WH	WH	WH
<b>(+) Vcc</b>	BN	BN	BN	BN	BN
<b>A</b>	GN	GN	GN	GN	GN
<b>B</b>	YE	YE	YE	YE	GY
<b>N</b>	GY	GY	GY	GY	-
<b>Light reserve warning</b>	PK	-	PK	-	-
<b>A inv.</b>	-	-	RD	RD	YE
<b>B inv.</b>	-	-	BK, (BU at ACA)	BK, (BU at ACA)	PK
<b>N inv.</b>	-	-	VT	VT	-
<b>Shield</b>	flex	flex	flex	flex	flex

**WDGI 58N: Connector (M16x0.75) SI, axial, 5-, 6-, 8-, 12-pin**


D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15












Description	ABN inv. poss.
<b>SI5</b> axial, 5-pin, Connector connected to encoder housing	-
<b>SI6</b> axial, 6-pin, Connector connected to encoder housing	-
<b>SI8</b> axial, 8-pin, Connector connected to encoder housing	•
<b>SI12</b> axial, 12-pin, Connector connected to encoder housing	•

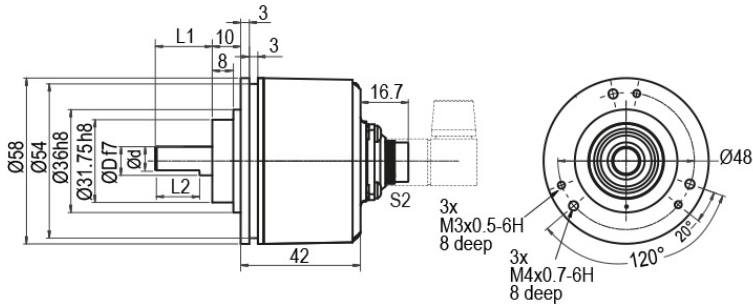
Assignments	SI5	SI6	SI6	SI8	SI8	SI8	SI12	SI12	SI12	SI12	SI12
	5-pin	6-pin	6-pin	8-pin	8-pin	8-pin	12-pin	12-pin	12-pin	12-pin	12-pin
<b>Circuit</b>	F05, H05, F24, H24, H30	G05, G24	F05, H05, F24, H24, H30	F05, H05, F24, H24, H30	P05, R05, P24, R24, R30, 245, 645	SIN	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30	SIN
<b>GND</b>	1	6	6	1	1	1	K, L	K, L	K, L	K, L	K, L
<b>(+) Vcc</b>	2	1	1	2	2	2	M, B	M, B	M, B	M, B	M, B
<b>A</b>	3	2	2	3	3	3	E	E	E	E	E
<b>B</b>	4	4	4	4	4	4	H	H	H	H	H
<b>N</b>	5	3	3	5	5	-	C	C	C	C	-
<b>Light reserve warning</b>	-	5	-	-	-	-	G	-	G	-	-
<b>A inv.</b>	-	-	-	-	6	6	-	-	F	F	F
<b>B inv.</b>	-	-	-	-	7	7	-	-	A	A	A
<b>N inv.</b>	-	-	-	-	8	-	-	-	D	D	-
<b>n. c.</b>	-	-	5	6, 7, 8	-	5, 8	A, D, F, J	A, D, F, G, J	J	G, J	D, G, J
<b>Shield</b>	-	-	-	-	-	-	-	-	-	-	-

**WDGI 58N: Connector (M16x0.75) SH, radial, 5-, 6-, 8-, 12-pin**


D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

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	•

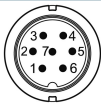
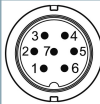
Assignments	SH5	SH6	SH6	SH8	SH8	SH8	SH12	SH12	SH12	SH12	SH12
	5-pin	6-pin	6-pin	8-pin	8-pin	8-pin	12-pin	12-pin	12-pin	12-pin	12-pin
											
<b>Circuit</b>	F05, H05, F24, H24, H30	G05, G24	F05, H05, F24, H24, H30	F05, H05, F24, H24, H30	P05, R05, P24, R24, R30, 245, 645	SIN	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30	SIN
<b>GND</b>	1	6	6	1	1	1	K, L	K, L	K, L	K, L	K, L
<b>(+) Vcc</b>	2	1	1	2	2	2	M, B	M, B	M, B	M, B	M, B
<b>A</b>	3	2	2	3	3	3	E	E	E	E	E
<b>B</b>	4	4	4	4	4	4	H	H	H	H	H
<b>N</b>	5	3	3	5	5	-	C	C	C	C	-
<b>Light reserve warning</b>	-	5	-	-	-	-	G	-	G	-	-
<b>A inv.</b>	-	-	-	-	6	6	-	-	F	F	F
<b>B inv.</b>	-	-	-	-	7	7	-	-	A	A	A
<b>N inv.</b>	-	-	-	-	8	-	-	-	D	D	-
<b>n. c.</b>	-	-	5	6, 7, 8	-	5, 8	A, D, F, J	A, D, F, G, J	J	G, J	D, G, J
<b>Shield</b>	-	-	-	-	-	-	-	-	-	-	-

**WDGI 58N: Connector (M16x0.75) S2, axial, 7-pin**


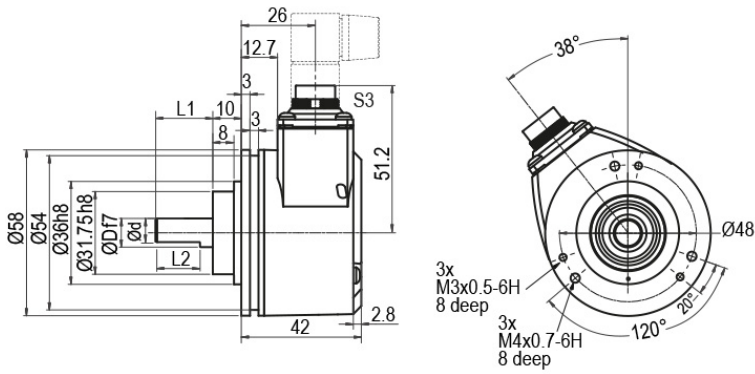
D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

**Description**
**ABN inv. poss.**
**S2** axial, 7-pin, Connector connected to encoder housing

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Assignments		
	S2	S2
	7-pin	7-pin
		
<b>Circuit</b>	G05, G24	F05, H05, F24, H24, H30
<b>GND</b>	1	1
<b>(+) Vcc</b>	2	2
<b>A</b>	3	3
<b>B</b>	4	4
<b>N</b>	5	5
<b>Light reserve warning</b>	6	-
<b>A inv.</b>	-	-
<b>B inv.</b>	-	-
<b>N inv.</b>	-	-
<b>n. c.</b>	7	6, 7
<b>Shield</b>	-	-

**WDGI 58N: Connector (M16x0.75) S3, radial, 7-pin**





D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

**Description**

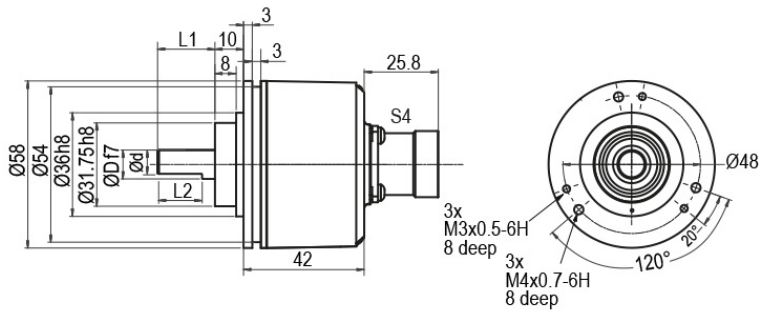
**ABN inv. poss.**

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

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Assignments		
	S3	S3
	7-pin	7-pin
		
<b>Circuit</b>	G05, G24	F05, H05, F24, H24, H30
<b>GND</b>	1	1
<b>(+) Vcc</b>	2	2
<b>A</b>	3	3
<b>B</b>	4	4
<b>N</b>	5	5
<b>Light reserve warning</b>	6	-
<b>A inv.</b>	-	-
<b>B inv.</b>	-	-
<b>N inv.</b>	-	-
<b>n. c.</b>	7	6, 7
<b>Shield</b>	-	-

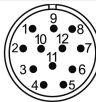
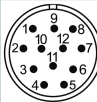
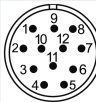
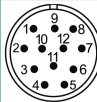
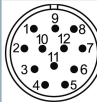


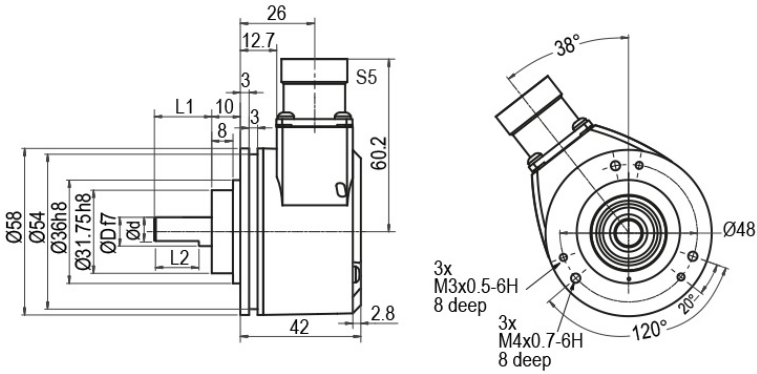
**WDGI 58N : Connector (M23) S4, axial, 12-pin**


D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

**Description**
**ABN inv. poss.**
**S4** axial, 12-pin, Connector connected to encoder housing

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




Assignments					
	S4	S4	S4	S4	S4
	12-pin	12-pin	12-pin	12-pin	12-pin
					
<b>Circuit</b>	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30	SIN
<b>GND</b>	10	10	10	10	10
<b>(+) Vcc</b>	12	12	12	12	12
<b>A</b>	5	5	5	5	5
<b>B</b>	8	8	8	8	8
<b>N</b>	3	3	3	3	-
<b>Light reserve warning</b>	11	-	11	-	-
<b>A inv.</b>	-	-	6	6	6
<b>B inv.</b>	-	-	1	1	1
<b>N inv.</b>	-	-	4	4	-
<b>n. c.</b>	1, 2, 4, 6, 7, 9	1, 2, 4, 6, 7, 9, 11	2, 7, 9	2, 7, 9, 11	2, 3, 4, 7, 9, 11
<b>Shield</b>	-	-	-	-	-

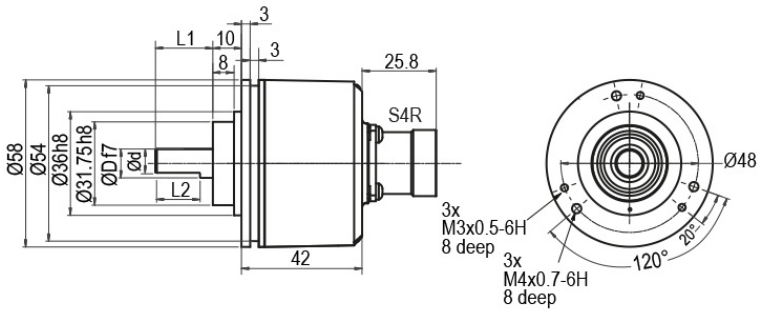
**WDGI 58N: Connector (M23) S5, radial, 12-pin**


D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

**Description**
**ABN inv. poss.**
**S5** radial, 12-pin, Connector connected to encoder housing

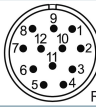
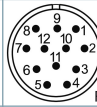
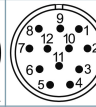
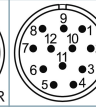
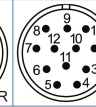
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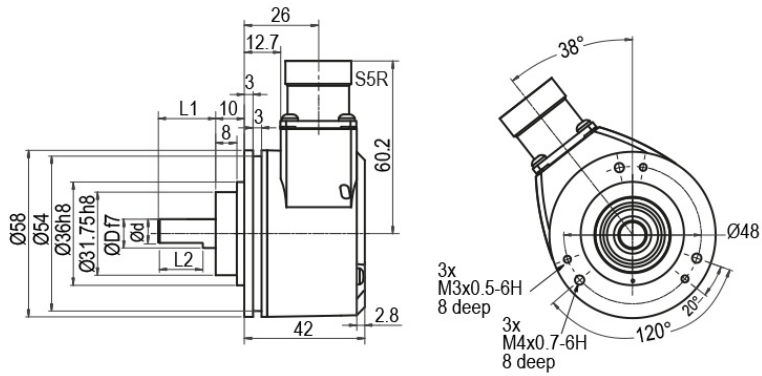
Assignments					
	S5	S5	S5	S5	S5
	12-pin	12-pin	12-pin	12-pin	12-pin
					
<b>Circuit</b>	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30	SIN
<b>GND</b>	10	10	10	10	10
<b>(+) Vcc</b>	12	12	12	12	12
<b>A</b>	5	5	5	5	5
<b>B</b>	8	8	8	8	8
<b>N</b>	3	3	3	3	-
<b>Light reserve warning</b>	11	-	11	-	-
<b>A inv.</b>	-	-	6	6	6
<b>B inv.</b>	-	-	1	1	1
<b>N inv.</b>	-	-	4	4	-
<b>n. c.</b>	1, 2, 4, 6, 7, 9	1, 2, 4, 6, 7, 9, 11	2, 7, 9	2, 7, 9, 11	2, 3, 4, 7, 9, 11
<b>Shield</b>	-	-	-	-	-

**WDGI 58N: Connector (M23) S4R, axial, 12-pin (clockwise)**


D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

**Description**
**ABN inv. poss.**
**S4R** axial, 12-pin, Connector connected to encoder housing

Assignments					
	S4R	S4R	S4R	S4R	S4R
	12-pin	12-pin	12-pin	12-pin	12-pin
					
<b>Circuit</b>	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30	SIN
<b>GND</b>	10	10	10	10	10
<b>(+) Vcc</b>	12	12	12	12	12
<b>A</b>	5	5	5	5	5
<b>B</b>	8	8	8	8	8
<b>N</b>	3	3	3	3	-
<b>Light reserve warning</b>	11	-	11	-	-
<b>A inv.</b>	-	-	6	6	6
<b>B inv.</b>	-	-	1	1	1
<b>N inv.</b>	-	-	4	4	-
<b>n. c.</b>	1, 2, 4, 6, 7, 9	1, 2, 4, 6, 7, 9, 11	2, 7, 9	2, 7, 9, 11	2, 3, 4, 7, 9, 11
<b>Shield</b>	-	-	-	-	-

**WDGI 58N: Connector (M23) S5R, radial, 12-pin (clockwise)**


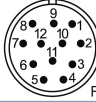
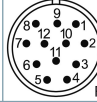
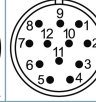
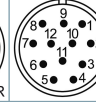
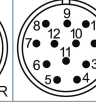
D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

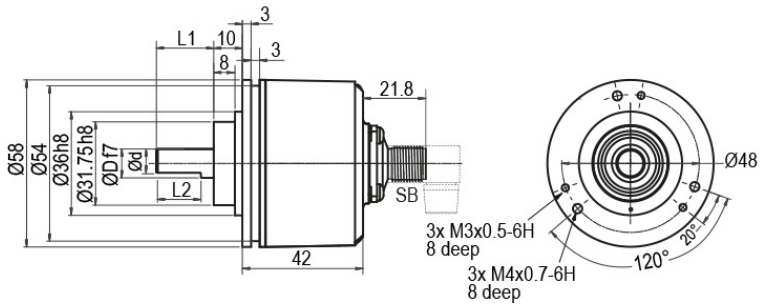
**Description**

ABN inv. poss.

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










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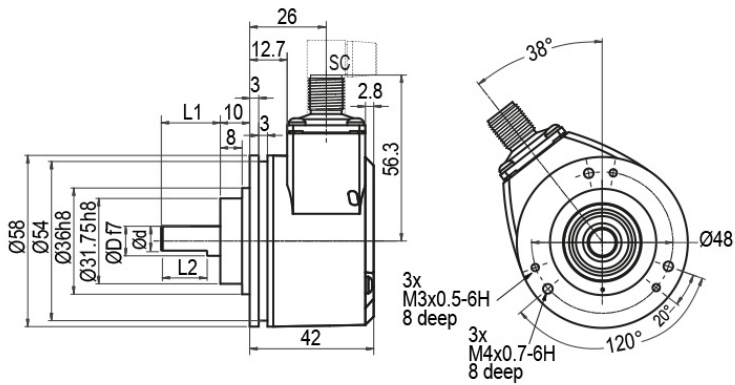
Assignments					
	S5R	S5R	S5R	S5R	S5R
	12-pin	12-pin	12-pin	12-pin	12-pin
					
<b>Circuit</b>	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30	SIN
<b>GND</b>	10	10	10	10	10
<b>(+) Vcc</b>	12	12	12	12	12
<b>A</b>	5	5	5	5	5
<b>B</b>	8	8	8	8	8
<b>N</b>	3	3	3	3	-
<b>Light reserve warning</b>	11	-	11	-	-
<b>A inv.</b>	-	-	6	6	6
<b>B inv.</b>	-	-	1	1	1
<b>N inv.</b>	-	-	4	4	-
<b>n. c.</b>	1, 2, 4, 6, 7, 9	1, 2, 4, 6, 7, 9, 11	2, 7, 9	2, 7, 9, 11	2, 3, 4, 7, 9, 11
<b>Shield</b>	-	-	-	-	-

**WDGI 58N: Sensor-connector (M12x1) SB, axial, 4-, 5-, 8-, 12-pin**


D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

Description	ABN inv. poss.
<b>SB4</b> axial, 4-pin, Connector connected to encoder housing	-
<b>SB5</b> axial, 5-pin, Connector connected to encoder housing	-
<b>SB8</b> axial, 8-pin, Connector connected to encoder housing	•
<b>SB12</b> axial, 12-pin, Connector connected to encoder housing	•

Assignments	SB4	SB5	SB8	SB8	SB8	SB12	SB12	SB12	SB12
	4-pin	5-pin	8-pin	8-pin	8-pin	12-pin	12-pin	12-pin	12-pin
									
<b>Circuit</b>	F05, H05, F24, H24, H30	F05, H05, F24, H24, H30	F05, H05, F24, H24, H30	P05, R05, P24, R24, R30, 245, 645	SIN	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30
<b>GND</b>	3	3	1	1	1	3	3	3	3
<b>(+) Vcc</b>	1	1	2	2	2	1	1	1	1
<b>A</b>	2	4	3	3	3	4	4	4	4
<b>B</b>	4	2	4	4	5	6	6	6	6
<b>N</b>	-	5	5	5	-	8	8	8	8
<b>Light reserve warning</b>	-	-	-	-	-	5	-	5	-
<b>A inv.</b>	-	-	-	6	4	-	-	9	9
<b>B inv.</b>	-	-	-	7	6	-	-	7	7
<b>N inv.</b>	-	-	-	8	-	-	-	10	10
<b>n. c.</b>	-	-	6, 7, 8	-	7, 8	2, 7, 9, 10, 11, 12	2, 5, 7, 9, 10, 11, 12	2, 11, 12	2, 5, 11, 12
<b>Shield</b>	-	-	-	-	-	-	-	-	-

**WDGI 58N: Sensor-connector (M12x1) SC, radial, 4-, 5-, 8-, 12-pin**


D = 6h7	L1 = 10	d = 5.5	L2 = 9
D = 8h8	L1 = 20	d = 7.5	L2 = 15
D = 9.525h7 [0.375]	L1 = 22.3 [0.878]	d = 9 [0.345]	L2 = 20.3 [0.799]
D = 10f7	L1 = 20	d = 9	L2 = 15

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	SC4	SC5	SC8	SC8	SC8	SC12	SC12	SC12	SC12
	4-pin	5-pin	8-pin	8-pin	8-pin	12-pin	12-pin	12-pin	12-pin
<b>Circuit</b>	F05, H05, F24, H24, H30	F05, H05, F24, H24, H30	F05, H05, F24, H24, H30	P05, R05, P24, R24, R30, 245, 645	SIN	G05, G24	F05, H05, F24, H24, H30	I05, I24, 524	P05, R05, P24, R24, 245, 645, R30
<b>GND</b>	3	3	1	1	1	3	3	3	3
<b>(+) Vcc</b>	1	1	2	2	2	1	1	1	1
<b>A</b>	2	4	3	3	3	4	4	4	4
<b>B</b>	4	2	4	4	5	6	6	6	6
<b>N</b>	-	5	5	5	-	8	8	8	8
<b>Light reserve warning</b>	-	-	-	-	-	5	-	5	-
<b>A inv.</b>	-	-	-	6	4	-	-	9	9
<b>B inv.</b>	-	-	-	7	6	-	-	7	7
<b>N inv.</b>	-	-	-	8	-	-	-	10	10
<b>n. c.</b>	-	-	6, 7, 8	-	7, 8	2, 7, 9, 10, 11, 12	2, 5, 7, 9, 10, 11, 12	2, 11, 12	2, 5, 11, 12
<b>Shield</b>	-	-	-	-	-	-	-	-	-

## Options

### Low-friction bearings

The encoder WDG1 58N is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.5 Ncm and the protection class at the shaft input to IP50.

### Order key

**AAC**

### IP67 Shafts sealed to IP67 (not for 1 Vpp Sin/Cos)

The encoder WDG1 58N can be supplied in a full IP67 version.

### Order key

**AAO**

Max. RPM: 3500 rpm

Permitted Shaft-Loading, axial: 100 N

Permitted Shaft-Loading, radial: 110 N

Max. PPR: 2500 ppr

Starting-torque: approx. 4 Ncm at ambient temperature

### Low temperature

The encoder WDG1 58N 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 58N 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 58N 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](http://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 58N	WDGI 58N					WDGI 58N
<b>Shaft</b>						
10	06; 08; 4Z= Ø 9.525 mm, Ø 3/8"; 10					
<b>Pulses per revolution PPR:</b>						
5000	2, 5, 10, 15, 20, 24, 25, 30, 36, 40, 48, 50, 60, 64, 72, 87, 90, 100, 120, 125, 127, 128, 150, 160, 180, 200, 216, 236, 240, 250, 254, 256, 300, 314, 320, 360, 400, 500, 512, 571, 600, 625, 720, 750, 768, 800, 810, 900, 1000, 1024, 1200, 1250, 1270, 1440, 1500, 1800, 2000, 2048, 2400, 2500, 3000, 3600, 4000, 4096, 4685, 5000, 10000, 12500, 20000, 25000 1 Vpp Sin/Cos only 1024, 2048 Other PPRs on request					
<b>Channels:</b>						
ABN	AB, ABN (SIN: AB)					
<b>Output circuit</b>						
G24	<b>Resolution PPR</b>	<b>Power supply VDC</b>	<b>Output circuit</b>	<b>Light reserve warning</b>	<b>Order key</b>	
	up to 2500	5 - 30	HTL	-	H30	
		5 - 30	HTL inverted	-	R30	
	up to 5000	4.75 - 5.5	TTL	•	G05	
		4.75 - 5.5	TTL	-	H05	
		4.75 - 5.5	TTL, RS422 comp., inverted	•	I05	
		4.75 - 5.5	TTL, RS422 comp., inverted	-	R05	
		10 - 30	HTL	•	G24	
		10 - 30	HTL	-	H24	
		10 - 30	HTL inverted	•	I24	
		10 - 30	HTL inverted	-	R24	
		10 - 30	TTL, RS422 comp., inverted	•	524	
		10 - 30	TTL, RS422 comp., inverted	-	245	
	(higher frequency) 1200 up to 25000	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			
Description	ABN inv. poss.	Order key	
<b>Cable: length (2 m standard, WDG 58T: 1 m)</b>			
axial, shield not connected	•	K2	
axial, shield connected to encoder housing	•	L2	
radial, shield not connected	•	K3	
radial, shield connected to encoder housing	•	L3	
<b>Connector: (shield connected to encoder housing)</b>			
connector, M16x0.75, 5-pin, axial	-	SI5	
connector, M16x0.75, 5-pin, radial	-	SH5	
connector, M16x0.75, 6-pin, axial	-	SI6	
connector, M16x0.75, 6-pin, radial	-	SH6	
connector, M16x0.75, 8-pin, axial	•	SI8	
connector, M16x0.75, 8-pin, radial	•	SH8	
connector, M16x0.75, 12-pin, axial	•	SI12	
connector, M16x0.75, 12-pin, radial	•	SH12	
connector, M16x0.75, 7-pin, axial	-	S2	
connector, M16x0.75, 7-pin, radial	-	S3	
connector, M23, 12-pin, axial	•	S4	
connector, clockwise pin count, M23, 12-pin, axial	•	S4R	
connector, M23, 12-pin, radial	•	S5	
connector, clockwise pin count, M23, 12-pin, radial	•	S5R	
sensor-connector, M12x1, 4-pin, axial	-	SB4	
sensor-connector, M12x1, 4-pin, radial	-	SC4	
sensor-connector, M12x1, 5-pin, axial	-	SB5	
sensor-connector, M12x1, 5-pin, radial	-	SC5	
sensor-connector, M12x1, 8-pin, axial	•	SB8	
sensor-connector, M12x1, 8-pin, radial	•	SC8	
sensor-connector, M12x1, 12-pin, axial	•	SB12	
sensor-connector, M12x1, 12-pin, radial	•	SC12	
<b>Options</b>			
Description	Order key		
Low-friction bearings	AAC		
IP67	AAO		
Low temperature	ACA		
Pressure equalising membrane	ACR		
Without option	Empty		
Cable length	XXX = Decimeter		

<b>Example Order No.=</b>	WDGI 58N	10	5000	ABN	G24	K2			WDGI 58N							<b>Your encoder</b>
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For further information please contact our local distributor.  
Here you find a list of our distributors worldwide.  
[http://www.wachendorff-automation.com/distributors\\_worldwide.html](http://www.wachendorff-automation.com/distributors_worldwide.html)



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