

**TECHNICAL DATASHEET**

**Stainless Steel Encoder AC 61 - Profinet**



- Interface PROFINET - Encoder Profil PNO 3.162 Version 4.1 and 4.2
- Resolution up to 34 Bit (22 Bit Singleturn + 12 Bit Multiturn)
- Updating of values 125 µs / Cycle time 31.25 µs
- Diagnostic LEDs
- Device data: position, speed, acceleration, diagnostic data, alarms
- Device configuration: resolution, total measuring range, preset, offset, direction, scaling, residual value (round axis) function, speed limits, acceleration limits
- Wide temperature range of -40°C ... +85°C
- "Best in Class" shock and vibration specs
- High corrosion resistance: high grade stainless steel housing
- High energy efficiency
- Protection class IP 67



**TECHNICAL DATA**  
mechanical

Housing diameter	61.5 mm
Shaft diameter	9.52 mm (3/8 inch) / 10 mm (Solid shafts)
Mounting Flange	Square flange 63.5 mm
Protection class shaft input (EN 60529)	IP67
Protection class housing (EN 60529)	IP67
Shaft load axial / radial	40 N / 80 N
Max. speed	max. 10,000 U/min (continuous duty) max. 12,000 U/min (short term) (higher values available upon request)
Starting torque typ. <sup>1</sup>	≤ 0.05 Nm
Moment of inertia	ca. 3.8 x 10 <sup>-6</sup> kgm <sup>2</sup>
Vibration resistance (DIN EN 60068-2-6)	300 m/s <sup>2</sup> (10 - 2000 Hz)
Shock resistance (DIN EN 60068-2-27)	4000 m/s <sup>2</sup> (6 ms)
Ambient temperature	-40 °C ... +85 °C
Storage temperature	-40 °C ... +85 °C
Material shaft	Stainless Steel
Material housing	Stainless steel
Weight	approx. 1180 g
Connection	Bus cover with 3x M12 connectors

<sup>1</sup> at 20 °C

Specifications subject to change without notice.

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**TECHNICAL DATA**  
electrical

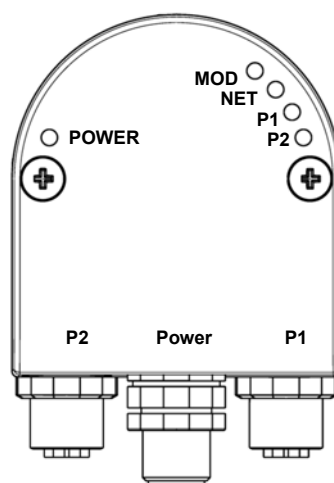
General design	As per DIN EN 61010-1, protection class III, contamination level 2, overvoltage class II
Supply voltage	DC 7 - 30 V
Current w/o load (typ.)	24V: 55 mA (ST) max; 65 mA (MT)
Power consumption	< 2 W
Resolution Singleturn	10 - 22 Bit
Resolution Multiturn	12 Bit (total max. resolution 32 bits)
Output code	Binary
Profile/ protocol <sup>1)</sup>	Profinet IO
Linearity	±½ LSB up to 14 Bit
Absolute accuracy (typ.)	±35"
Repeatability (typ.)	±10"
Device data	position, speed, acceleration, diagnostic data, alarms
Device configuration	resolution, total measuring range, preset, offset, direction, scaling, residual value function, speed limits, acceleration limits
Updating of values / Cycle time	125 µs / 31.25 µs

<sup>1)</sup> Encoder profile 4.1 and 4.2 (according to the specification Encoder Version 4.1 Dec 2008 and Version 4.2 March 2017"

**ELECTRICAL CONNECTIONS**  
Bus cover with 3x M12 connectors

Pin	Port 1 (P1)	Supply voltage	Port 2 (P2)
1	TxD+	UB in	TxD+
2	RxD+	N.C.	RxD+
3	TxD-	0 V in	TxD-
4	RxD-	N.C.	RxD-
Shield	Shield <sup>1</sup>	Shield <sup>1</sup>	Shield <sup>1</sup>

<sup>1</sup> shield connected to encoder housing

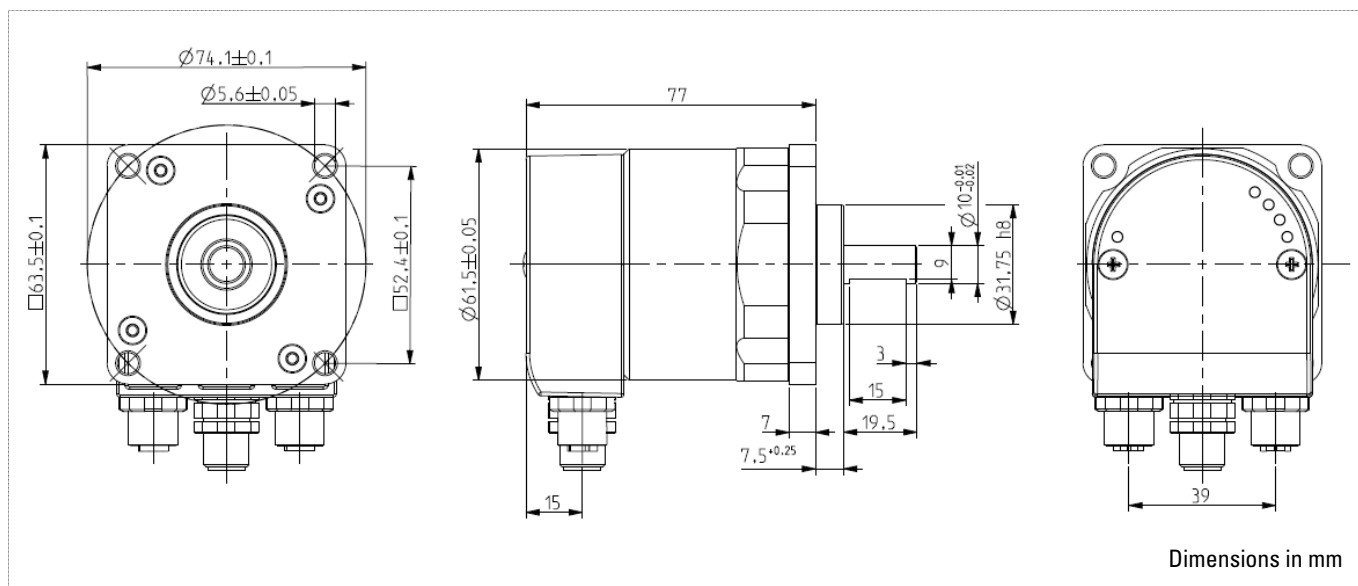


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**DIMENSIONAL DRAWINGS**



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Data sheet	© Hengstler GmbH Umlandstr. 49 D-78554 Aldingen/ Germany ☎ +49 74 24 - 89 0 Fax +49 74 24 - 89 500 E-mail: info@hengstler.com Internet: www.hengstler.com	Page
Version 3 211020TK		3/6

## TECHNICAL DATASHEET

### Stainless Steel Encoder AC 61 - Profinet

#### ORDERING INFORMATION Profinet

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Interface	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>AC61</b>	<b>0010</b> 10 Bit ST <b>0012</b> 12 Bit ST <b>0013</b> 13 Bit ST <b>0014</b> 14 Bit ST <b>0016</b> 16 Bit ST <b>0017</b> 17 Bit ST <b>0018</b> 18 Bit ST <b>0019</b> 19 Bit ST <b>0020</b> 20 Bit ST <b>0022</b> 22 Bit ST  <b>1212</b> 12 Bit MT + 12 Bit ST <b>1213</b> 12 Bit MT + 13 Bit ST <b>1214</b> 12 Bit MT + 14 Bit ST <b>1216</b> 12 Bit MT + 16 Bit ST <b>1217</b> 12 Bit MT + 17 Bit ST <b>1218</b> 12 Bit MT + 18 Bit ST <b>1219</b> 12 Bit MT + 19 Bit ST <b>1220</b> 12 Bit MT + 20 Bit ST <b>1222</b> 12 Bit MT + 22 Bit ST  Others available upon request	<b>E</b> DC 7 - 30 V	<b>Q.72</b> Square, IP67, 10 mm <b>Q.76</b> Square, IP67, 9.52 mm	<b>DN</b> Profinet	<b>R</b> Bus cover with 3x M12 connectors

#### TECHNICAL MANUALS

	Ordering code
Technical manual, English	2 565 737 (or Home page)
Technical manual, German	2 565 736 (or Home page)

#### SOFTWARE

	Ordering code
GSDML file, download from our Home page	<a href="http://www.hengstler.com">www.hengstler.com</a>

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Version 3 211020TK		4/6

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**Accessories**

**CONNECTING CABLES**

Connecting cables with plug, Power	Ordering code
PUR cable, M12 connector, A coded, 4 pole, single ended, 2m	3 561 086
PUR cable, M12 connector, A coded, 4 pole, single ended, 5m	3 561 081
PUR cable, M12 connector, A coded, 4 pole, single ended, 10m	3 561 099
PUR cable, M12 connector, A coded, 4 pole, single ended, 15m	3 561 087
PUR cable, M12 connector, A coded, 4 pole, single ended, 20m	3 561 095
PUR cable, M12 connector, A coded, 4 pole, single ended, 40m	3 561 094
PUR cable, M12 connector, A coded, 4 pole, single ended, 50m	3 561 096

Connecting cables with plug, Encoder - Port (Drive)	Ordering code
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 2m	3 561 082
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 5m	3 561 083
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 10m	3 561 100
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 15m	3 561 088
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 20m	3 561 093
PUR cable, RJ45 + M12 connector, D coded, 4 pole, 40m	3 561 092

Connecting cables with plug, Encoder - Encoder	Ordering code
PUR cable, 2x M12 connector, D coded, 4 pole, 2m	3 561 084
PUR cable, 2x M12 connector, D coded, 4 pole, 5m	3 561 085
PUR cable, 2x M12 connector, D coded, 4 pole, 15m	3 561 089
PUR cable, 2x M12 connector, D coded, 4 pole, 20m	3 561 101
PUR cable, 2x M12 connector, D coded, 4 pole, 40m	3 561 097
PUR cable, 2x M12 connector, D coded, 4 pole, 50m	3 561 098

**FLEXIBLE COUPLINGS**



Bellows coupling



Helical coupling



Isolated disk coupling

	Hub diameter d1/d2	Ordering code
Bellows coupling	8 mm / 10 mm	3 520 077
Bellows coupling	10 mm / 10 mm	3 520 037
Isolated disk coupling	6 mm / 10 mm	3 520 082
Isolated disk coupling	10 mm / 10 mm	3 520 088
Helical coupling 25/32	6 mm / 9.53 mm	3 520 052
Helical coupling 25/32	6 mm / 10 mm	3 520 066
Helical coupling 25/32	10 mm / 10 mm	3 520 074
Helical coupling 25/32	10 mm / 12 mm	3 520 065

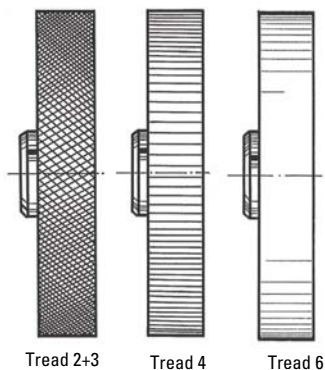
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**Accessories**

**MEASURINGWHEEL**



**Tread 2 B**

with glued - on rubber profile B= low - wear rubber sureface with good (white)  
Applications such as paper and cardboard, measuring cables, nongreasy matals, Fleece, undressed or surface - treated wood, soft and hard plasics

**Tread 3**

vulcanized rubber surface with parallel knurl  
Applications such as rubber, leather, fabrics, flooring and glass

**Tread 4**

Aluminium with parallel knurl  
Applications such as rubber, soft plastics, wood with rough surface, and to a limited extent for fabrics

**Tread 6**

plastic surface  
Applications such as wire, greasy metals and steel sections

Material	Bore diameter (mm) fitting to encoder shaft	Circumference	Tread	Width of bearing surface	Ordering code
Aluminium	10 mm	0.2 m	2 B	12 mm	0 601 049
Aluminium	10 mm	0.5 m	2 B	25 mm	0 601 151
Aluminium	10 mm	0.5 m	3	25 mm	0 601 161
Aluminium	10 mm	0.5 m	6	25 mm	0 601 163
Aluminium	10 mm	0.5 yd	4	25 mm	0 601 157

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