

## TECHNICAL DATASHEET

### Absolute Stainless Steel Encoders AC 61 - DeviceNet



Version AC 61 with bus cover

- Compact design
- Protection class IP67
- High corrosion resistance
- Robust design
- Resolution up to 26 Bit (14 Bit ST, 12 Bit MT)
- Bus cover
- Programmable: Resolution, Preset, Direction
- Allan-Bradley compatible
- Applications: packaging machine for food and beverage, ship equipment (e.g. cranes, winches, cable laying ships), offshore applications



#### GENERAL INFORMATION

The absolute stainless steel encoders are available in the Versions AC 59 and AC 61.

- AC 59: drawn stainless steel housing, only together with cable outlet, no access to control elements
- AC 61: machined housing, possible with cable or bus cover, access to control elements (DIP switch, Reset switch)

#### TECHNICAL DATA mechanical

Housing diameter	61.5 mm
Shaft diameter	9.52 mm / 10 mm (Solid shaft)
Flange (Mounting of housing)	Square flange 63.5 mm
Protection class shaft input (EN 60529)	IP67
Protection class housing (EN 60529)	IP67
Shaft load axial / radial	40 N / 60 N
Max. speed	max. 6000 rpm (continuous), max. 10 000 rpm (short term)
Starting torque typ.	≤ 1 Ncm
Moment of inertia	approx. 20 gcm <sup>2</sup>
Vibration resistance (DIN EN 60068-2-6)	100 m/s <sup>2</sup> (10 ... 500 Hz)
Shock resistance (DIN EN 60068-2-27)	1000 m/s <sup>2</sup> (6 ms)
Operating 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 2 sealed cable exits

#### TECHNICAL DATA electrical

General design	as per DIN EN 61010-1, protection class III, contamination level 2, overvoltage class II
Supply voltage	DC 10-30 V
Current w/o load typ.	220 mA (ST), 250 mA (MT)
EMC	Noise emission according to EN 50081-2 Immunity to interference according to EN 50082-2
Resolution singleturn	10 - 14 Bit
Resolution multeturn	12 Bit

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**TECHNICAL DATA**  
electrical (continued)

Output code	Binary
Interface	CAN High-Speed according to ISO/DIS 11898 CAN specification 2.0 A (11-Bit-Identifier)
Linearity	$\pm \frac{1}{2}$ LSB ( $\pm 1$ LSB for resolution 13, 14, 25, 26 Bit)
Profile/ protocol	DeviceNet according to Rev. 2.0, programmable encoder
Programmable	Resolution, Preset, Direction
Baud rate	set via DIP switches to 125, 250, 500 Kbaud
Bus termination resistor	set via DIP switches
Updating of values	every 5 Milliseconds
MAC-ID	set via DIP switches

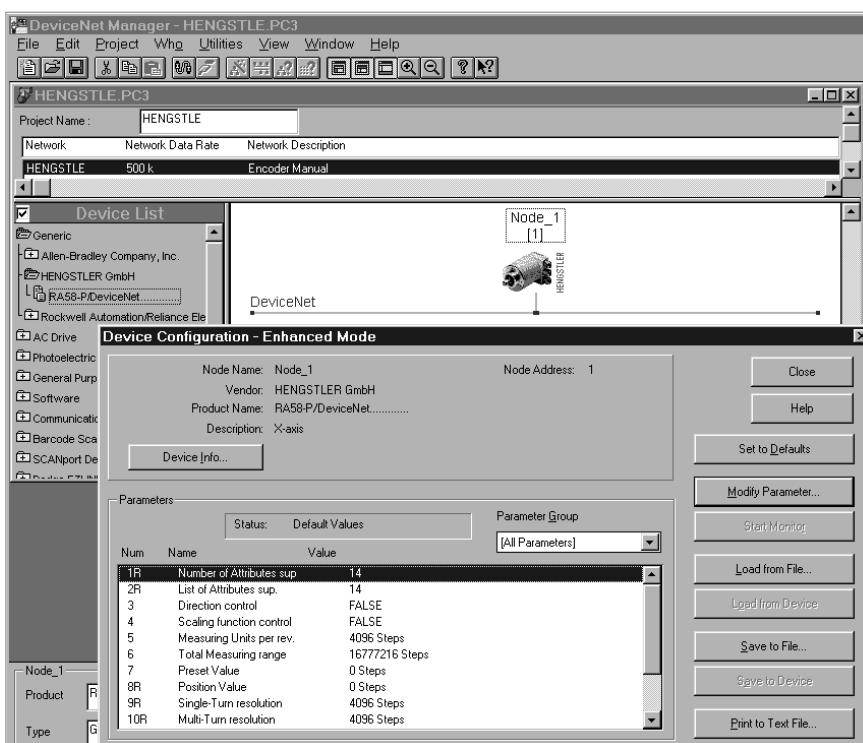
**RECOMMENDED DATA TRANSFER Lead type A**

Shaft resistance	135...165 $\Omega$ (3...20MHz)
Operating capacity	< 30pF/m
Loop impedance	< 110 $\Omega$ /km
Strand diameter	> 0.64 mm
Strand cross section	> 0.34 mm <sup>2</sup>

**Transfer speeds**

Segment length	kbit/s
500 m	125
250 m	250
100 m	500

**STARTUP** (the encoder can be easily and quickly installed and programmed with the EDS file)



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#### ELECTRICAL CONNECTIONS

Bus cover with 2 sealed cable exits

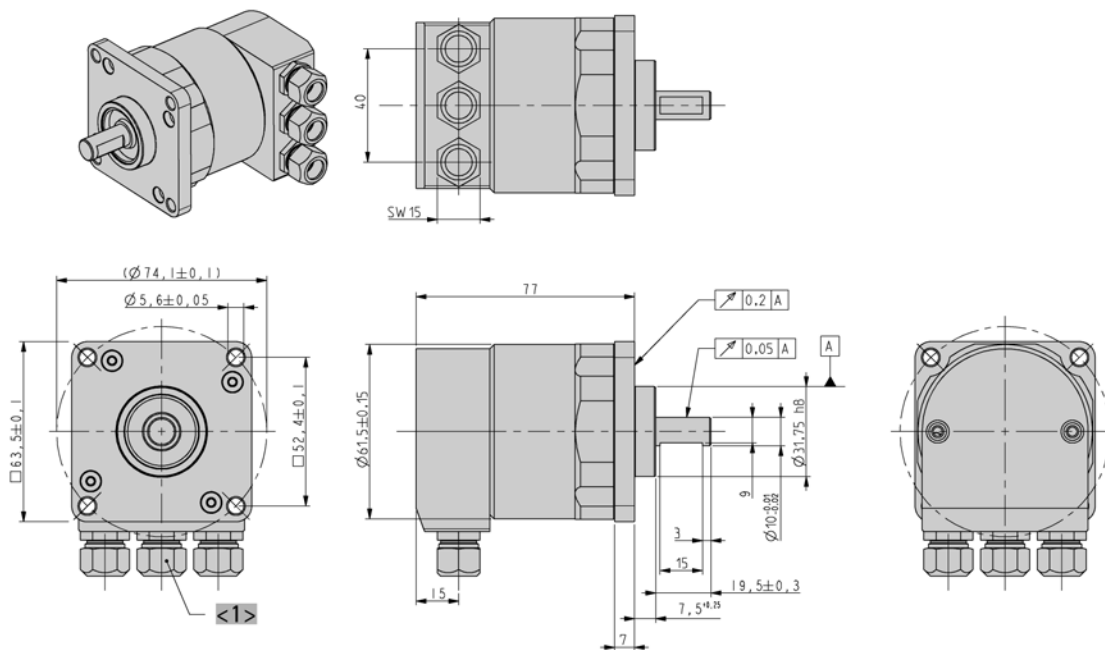
#### Terminals

No.	Signal name
1	UB in (DC 10 - 30V)
2	0 V in
3	CAN-L
4	CAN-H
5	DRAIN
6	DRAIN
7	DRAIN
8	CAN-L
9	0 V out
10	UB out (DC 10 - 30V)

#### DIMENSIONED DRAWINGS

##### AC 61 Connection cable "Z"

Interface: Profibus. CANopen. CANlaver2. DeviceNet. Interbus



<1> Obsolete with DeviceNet

Dimensions in mm

#### ORDERING INFORMATION

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>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>E</b> DC 10 - 30 V	<b>0.76</b> Square, IP67, 9.52 mm <b>0.72</b> Square, IP67, 10 mm	<b>VD</b> DeviceNet	<b>Z</b> Bus cover with 2 sealed cable exits

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### Absolute Stainless Steel Encoders AC 61 - DeviceNet

#### Accessories

#### FLEXIBLE COUPLINGS



Bellows coupling



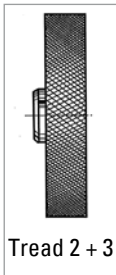
Helical coupling



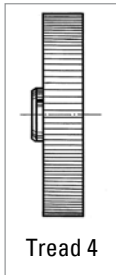
Isolated disk coupling

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

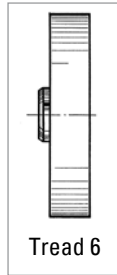
#### MEASURING WHEELS



Tread 2 + 3



Tread 4



Tread 6

#### Tread 2 B

with glued-on rubber profile B = low-wear rubber surface with good grip (white)  
Applications such as paper and cardboard, measuring cables, nongreasy metals, fleece, undressed or surface-treated wood, soft and hard plastics

#### Tread 3

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

#### Tread 4

Aluminum 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
Aluminum	10 mm	0.2 m	2 B	12 mm	0 601 049
Aluminum	10 mm	0.5 m	2 B	25 mm	0 601 151
Aluminum	10 mm	0.5 m	3	25 mm	0 601 156
Aluminum	12 mm	0.5 m	3	25 mm	0 601 159
Aluminum	10 mm	0.5 m	6	25 mm	0 601 163
Aluminum	10 mm	0.5 yd	4	25 mm	0 601 157

#### TECHNICAL MANUALS

**TECHNICAL DATASHEET**

**Absolute Stainless Steel Encoders AC 61 - DeviceNet**

**Accessories**

**TECHNICAL MANUALS (continued)**

	<b>Ordering code</b>
Technical manual, English, DeviceNet	2 565 256 (or homepage)
Technical manual, German, DeviceNet	2 565 094 (or homepage)

**SOFTWARE**

	<b>Ordering code</b>
EDS-file, as download from our homepage	www.hengstler.com