



Version AC 59 with cable outlet



Version AC 61 with bus cover or cable

TYPES

TECHNICAL DATA mechanical

TECHNICAL DATA electrical

- Compact design
- Protection class IP67
- High corrosion resistance
- Robust design
- Resolution up to 29 Bit (17 Bit ST, 12 Bit MT)
- Connection with cable or with bus cover
- Applications:
 - Packaging machine for food and beverage
 - Ship equipment (e.g. cranes, winches, cable laying ships)
 - Offshore - Applications

The absolute stainless steel encoder 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: massive turned housing, possible with cable or bus cover, access to control elements (DIP switch, Reset switch)

The stainless steel encoder is available with following interfaces:

- Single- or multiturn with cable radial/ axial and interfaces SSI, BiSS, Parallel, SSI-P, CANopen, CANlayer2
- Single- or multiturn with bus cover and interfaces Profibus, CANopen, CANlayer2, DeviceNet, Interbus

Flange	Square flange 63.5 x 63.5 mm
Shaft diameter	10 mm
Protection class (EN 60529)	IP67
Max. Speed	Short term: 10 000 min ⁻¹ , continuous: 6 000 min ⁻¹
Torque	< 1 Ncm
Moment or inertia	approx. 20 gcm ²
Max. shaft load	axial 40 N/ radial 60 N
Vibration proof (IEC 68-2-6)	100 m/ s ² (10 - 500 Hz)
Shock resistance (IEC 68-2-27)	1000 m/ s ² (6 ms)
Operating temperature	SSI, BiSS, Parallel, : -40...+100°C SSI-P, Interbus: -40...+70°C Profibus, CANopen, CANlayer2, DeviceNet: -40...+ 85°C
Storage temperature	-40...+ 85°C
Material Shaft/ Housing	Stainless steel
Weight approx.	AC 59 with 1.5 m cable: 700 g AC 61 with 1.5 m cable: 980 g AC 61 with bus cover (MT): 1 180 g

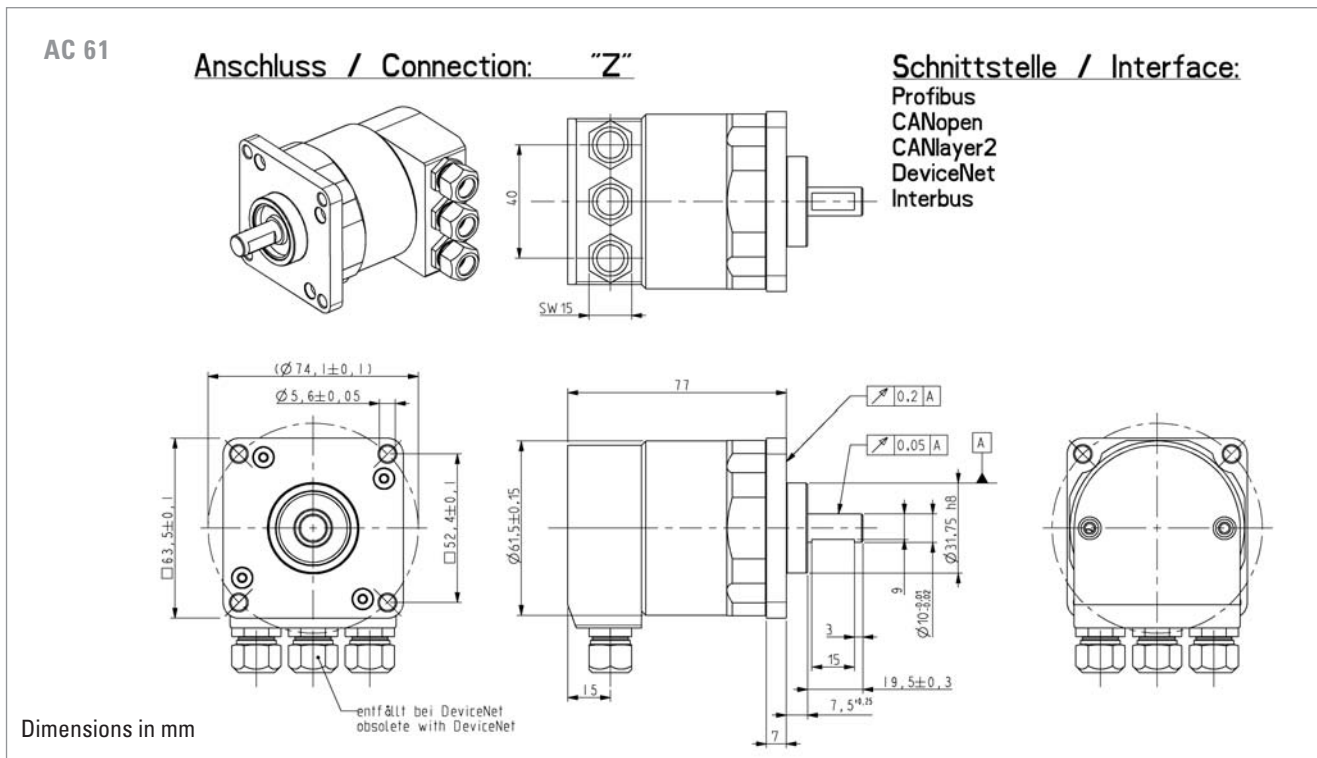
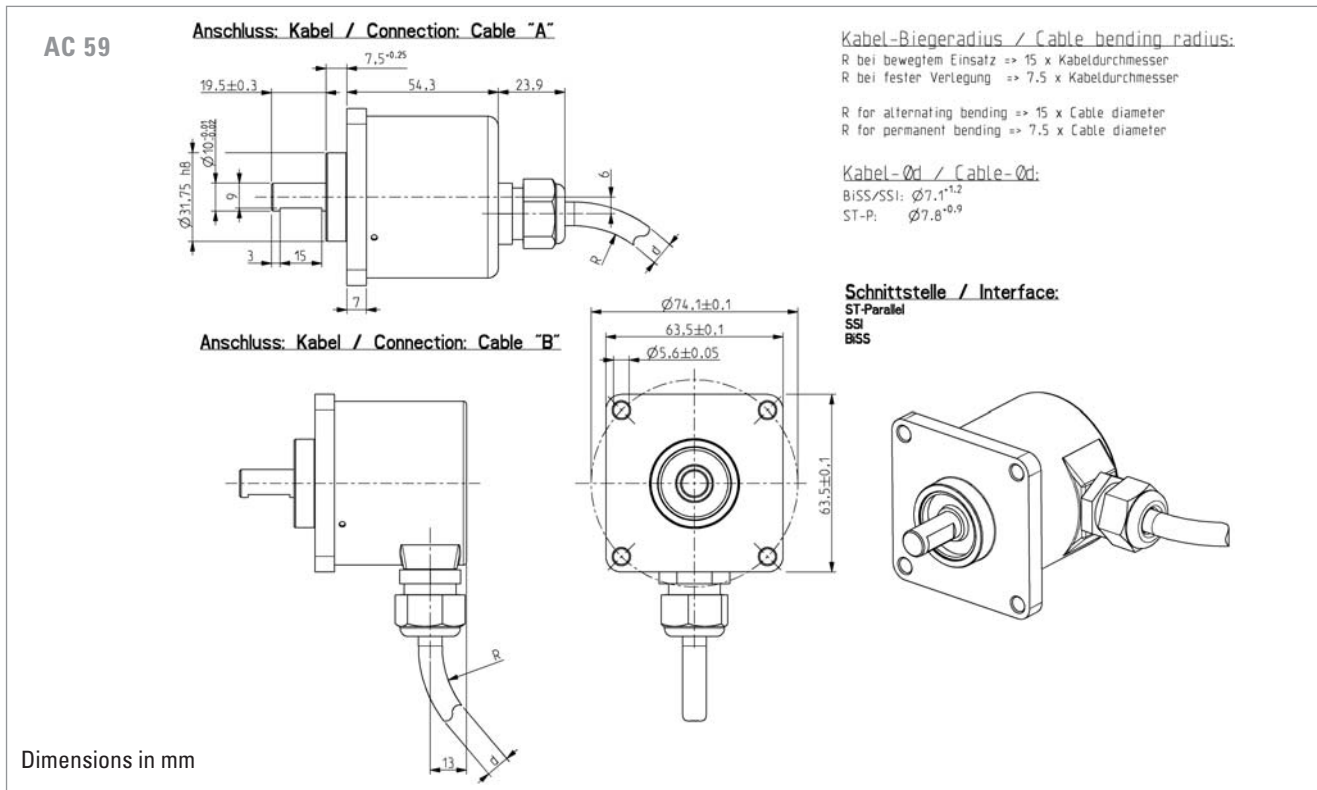
The electrical data and pin assignment see for:

- BiSS/ SSI, page 113
- Parallel, page 118
- Profibus, page 123
- CANopen, page 127
- CANlayer2, page 130
- DeviceNet, page 133
- Interbus, page 136
- SSI-P, page 142

Absolute Shaft Encoders Type AC 59 / 61

Stainless steel

DIMENSIONAL DRAWINGS



DIMENSIONAL DRAWINGS (continued)

AC 61

Anschluss: Kabel / Connection: Cable "A"

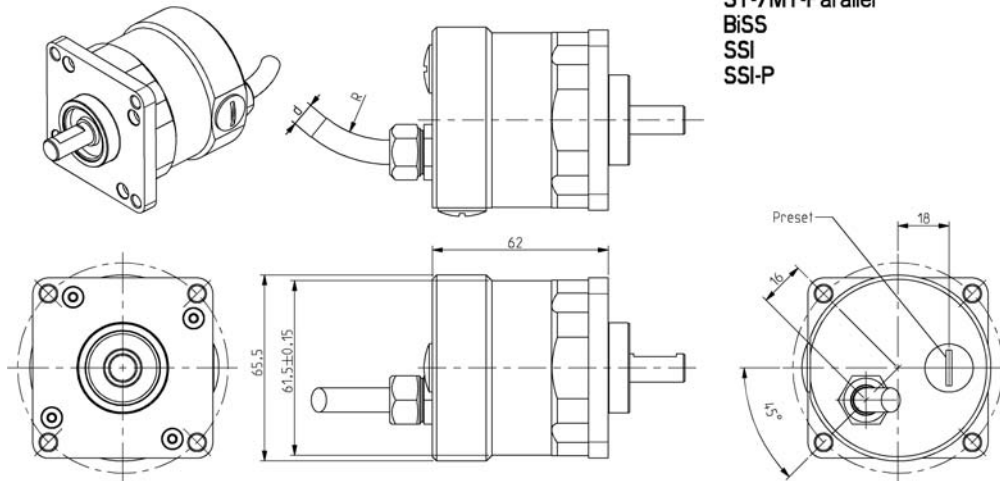
Schnittstelle / Interface:

ST-/MT-Parallel

BiSS

SSI

SSI-P



Kabel-Biegeradius / Cable bending radius:

R bei bewegtem Einsatz => 15 x Kabeldurchmesser

R bei fester Verlegung => 7.5 x Kabeldurchmesser

R for alternating bending => 15 x Cable diameter

R for permanent bending => 7.5 x Cable diameter

Kabel-Ød / Cable-Ød:

BiSS/SSI/SSI-P: $\varnothing 7.1^{+1.2}$

ST-P: $\varnothing 7.8^{+0.9}$

MT-P: $\varnothing 9.3^{+1.3}$

Feldbus/Fieldbus: $\varnothing 7.1^{+1.2}$

Dimensions in mm

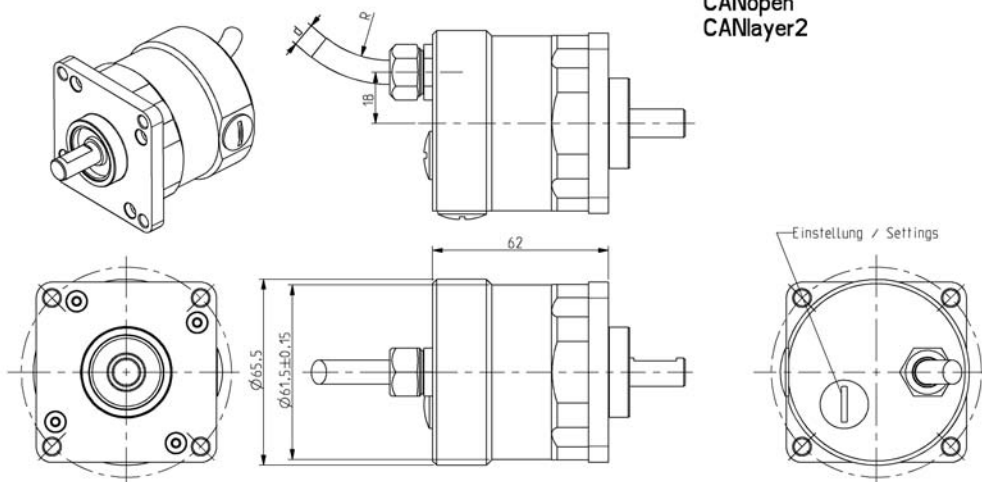
AC 61

Anschluss: Kabel / Connection: Cable "A"

Schnittstelle / Interface:

CANopen

CANlayer2



Kabel-Biegeradius / Cable bending radius:

R bei bewegtem Einsatz => 15 x Kabeldurchmesser

R bei fester Verlegung => 7.5 x Kabeldurchmesser

R for alternating bending => 15 x Cable diameter

R for permanent bending => 7.5 x Cable diameter

Kabel-Ød / Cable-Ød:

BiSS/SSI/SSI-P: $\varnothing 7.1^{+1.2}$

ST-P: $\varnothing 7.8^{+0.9}$

MT-P: $\varnothing 9.3^{+1.3}$

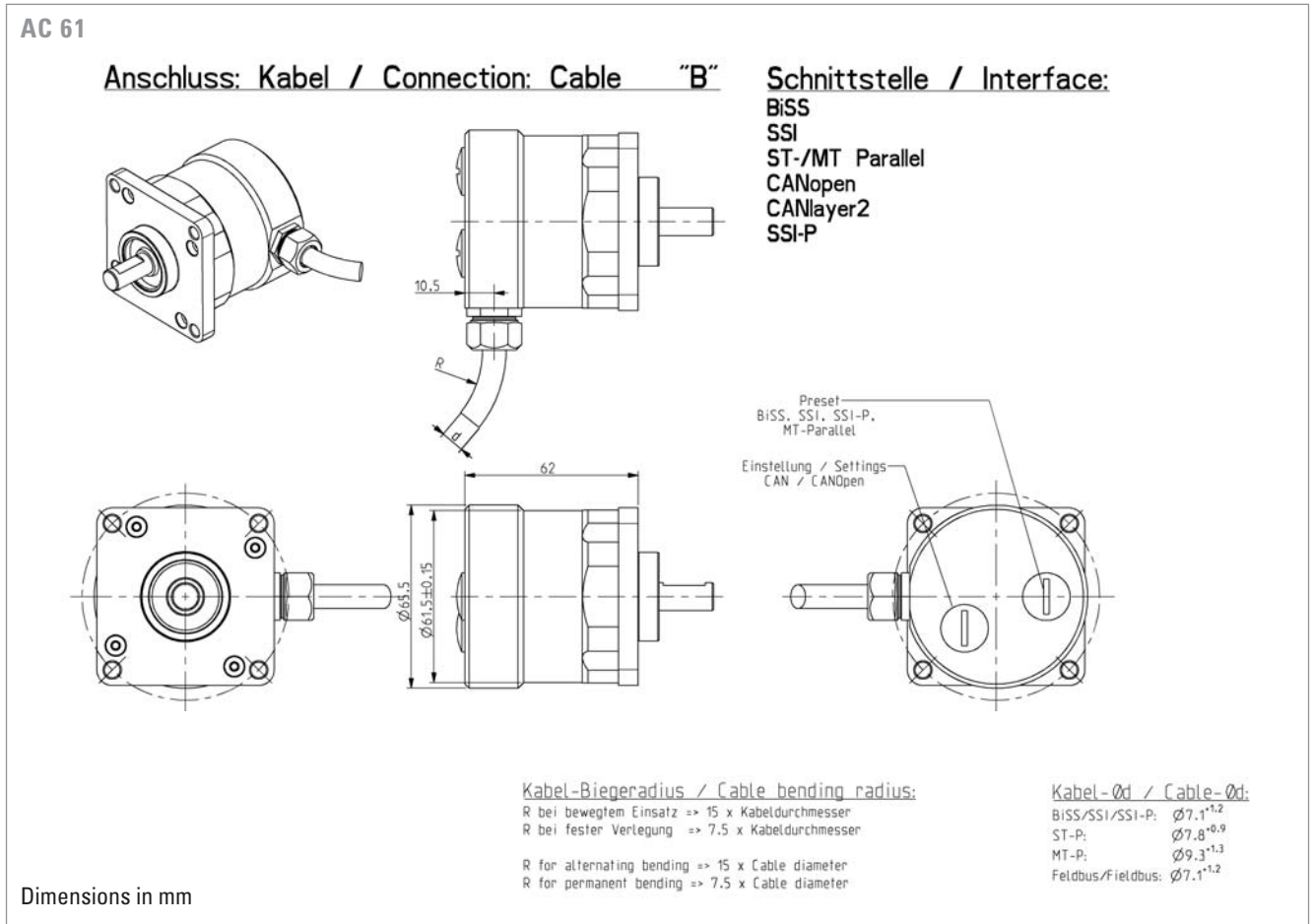
Feldbus/Fieldbus: $\varnothing 7.1^{+1.2}$

Dimensions in mm

Absolute Shaft Encoders Type AC 59 / 61

Stainless steel

DIMENSIONAL DRAWINGS (continued)



ACCESSORIES

Profibus	
GSD-file as download from our homepage	www.hengstler.com
Technical manual German	2 565 090 (or homepage)
Technical manual English	2 565 255 (or homepage)
CANopen	
EDS-file as download from our homepage	www.hengstler.com
Technical manual	2 565 250 (or homepage)
DeviceNet	
EDS-file as download from our homepage	www.hengstler.com
Technical manual German	2 565 094 (or homepage)
Technical manual English	2 565 256 (or homepage)
Interbus	
Technical manual K3 German	2 565 217 (or homepage)
SSI programmable	
Technical manual German	2 565 287 (or homepage)
Technical manual English	2 565 289 (or homepage)
Software Win SSI as download from our homepage	www.hengstler.com

Absolute Shaft Encoders Type AC 59 / 61

Stainless steel

ORDERING INFORMATION ACURO industry with BiSS

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Output	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AC59	0010 10 Bit ST 0012 12 Bit ST 0013 13 Bit ST 0014 14 Bit ST 0017 17 Bit ST 0360 360 Incr. ST ¹ 0720 720 Incr. ST ² 1212 12 Bit MT+12 Bit ST 1213 12 Bit MT+13 Bit ST 1214 12 Bit MT+14 Bit ST 1217 12 Bit MT+17 Bit ST	A DC 5 V E DC 10 - 30 V	Q.72 Square flange, IP67, 10x19.5 mm Q.76 Square flange, IP67, 9.52x19.5 mm	BI BiSS (Digital) BC BiSS (+SinCos 1Vpp)	A Cable axial 1.5 m A-FO Cable axial 5 m A-KO Cable axial 10 m B Cable radial 1.5 m B-FO Cable radial 5 m B-KO Cable radial 10 m
¹ with Offset 76 (value range 76...435) ² with Offset 152 (value range 152...871)					

ORDERING INFORMATION ACURO industry with SSI

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Output	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AC59	0010 10 Bit ST 0012 12 Bit ST 0013 13 Bit ST 0014 14 Bit ST 0017 17 Bit ST 0360 360 Incr. ST ¹ 0720 720 Incr. ST ² 1212 12 Bit MT+12 Bit ST 1213 12 Bit MT+13 Bit ST	A DC 5 V E DC 10 - 30 V	Q.72 Square flange, IP67, 10x19.5 mm Q.76 Square flange, IP67, 9.52x19.5 mm	SB SSI Binary SG SSI Gray SC SSI Gray (+SinCos 1Vpp)	A Cable axial 1.5 m A-FO Cable axial 5 m A-KO Cable axial 10 m B Cable radial 1.5 m B-FO Cable radial 5 m B-KO Cable radial 10 m
¹ with Offset 76 (value range 76...435) ² with Offset 152 (value range 152...871)					

Absolute Shaft Encoders Type AC 59 / 61

Stainless steel

ORDERING INFORMATION ACURO industry with Parallel

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Output	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AC59 * AC61	0010 10 Bit ST 0012 12 Bit ST 0013 13 Bit ST 0014 14 Bit ST 0017 17 Bit ST 0360 360 Incr. ST ¹ 0720 720 Incr. ST ² 0412 04 Bit MT+12 Bit ST 0812 08 Bit MT+12 Bit ST 1212 12 Bit MT+12 Bit ST	E DC 10 - 30 V	Q.72 Square flange, IP67, 10x19.5 mm Q.76 Square flange, IP67, 9.52x19.5 mm	PB Parallel Binary PG Parallel Gray	A Cable axial 1.5 m A-F0 Cable axial 5 m A-K0 Cable axial 10 m B Cable radial 1.5 m B-F0 Cable radial 5 m B-K0 Cable radial 10 m
* only with ST ¹ with Offset 76 (value range 76...435) ² with Offset 152 (value range 152...871)					

ORDERING INFORMATION ACURO industry with Profibus

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Output	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AC61	0010 10 Bit ST 0012 12 Bit ST 0013 13 Bit ST 0014 14 Bit ST 1212 12 Bit MT+12 Bit ST 1213 12 Bit MT+13 Bit ST 1214 12 Bit MT+14 Bit ST	E DC 10 - 30 V	Q.72 Square flange, IP67, 10x19.5 mm Q.76 Square flange, IP67, 9.52x19.5 mm	DP Profibus	Z Bus terminal box with 3x screwed cable gland

ORDERING INFORMATION ACURO industry with CANopen / CANlayer2

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Output	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AC61	0010 10 Bit ST 0012 12 Bit ST 0013 13 Bit ST 0014 14 Bit ST 1212 12 Bit MT+12 Bit ST 1213 12 Bit MT+13 Bit ST 1214 12 Bit MT+14 Bit ST	E DC 10 - 30 V	Q.72 Square flange, IP67, 10x19.5 mm Q.76 Square flange, IP67, 9.52x19.5 mm	OL CANopen CL CANlayer2	A Cable axial 1.5 m A-F0 Cable axial 5 m A-K0 Cable axial 10 m B Cable radial 1.5 m B-F0 Cable radial 5 m B-K0 Cable radial 10 m Z Bus terminal box with 3x screwed cable gland

ORDERING INFORMATION

ACURO industry with DeviceNet

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Output	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AC61	0010 10 Bit ST 0012 12 Bit ST 0013 13 Bit ST 0014 14 Bit ST 1212 12 Bit MT+12 Bit ST 1213 12 Bit MT+13 Bit ST 1214 12 Bit MT+14 Bit ST	E DC 10 - 30 V	Q.72 Square flange, IP67, 10x19.5 mm Q.76 Square flange, IP67, 9.52x19.5 mm	VD DeviceNet	Z Bus terminal box with 2x screwed cable gland

ORDERING INFORMATION

ACURO industry with Interbus

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Output	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AC61	0010 10 Bit ST 0012 12 Bit ST 0013 13 Bit ST 0014 14 Bit ST 1212 12 Bit MT+12 Bit ST 1213 12 Bit MT+13 Bit ST 1214 12 Bit MT+14 Bit ST	E DC 10 - 30 V	Q.72 Square flange, IP67, 10x19.5 mm Q.76 Square flange, IP67, 9.52x19.5 mm	I3 Interbus K3 I2 Interbus K2	Z Bus terminal box with 3x screwed cable gland

ORDERING INFORMATION

ACURO industry with SSI programmable

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Output	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AC61	0010 10 Bit ST 0012 12 Bit ST 0013 13 Bit ST 0014 14 Bit ST 1212 12 Bit MT+12 Bit ST 1213 12 Bit MT+13 Bit ST 1214 12 Bit MT+14 Bit ST 1217 12 Bit MT+17 Bit ST *	E DC 10 - 30 V	Q.72 Square flange, IP67, 10x19.5 mm Q.76 Square flange, IP67, 9.52x19.5 mm	SP SSI programmable	A Cable axial 1.5 m A-F0 Cable axial 5 m A-K0 Cable axial 10 m B Cable radial 1.5 m B-F0 Cable radial 5 m B-K0 Cable radial 10 m

* higher resolution on request