

TECHNICAL DATASHEET

HD - Absolute Encoder AR 62/63



AR 62



AR 63 Stainless

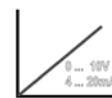
- Single - and multi turn: Resolution up to 28 Bit
- Wearless electronic multi turn: contact - and batterie less, self-energetic
- 300 N axial and radial load
- 200 g shock resistance/ 20 g vibration resistance
- Submersible: Protection class up to IP69K
- High temperature range: -40 ... +100°C
- Compact design: 32 mm mounting depth
- Option: Stainless steel housing

ACURO® -XRobust

HEAVY DUTY

BiSS
INTERFACE

SSI CANopen



GENERAL INFORMATION

AR62/ 63 - THE ROBUST ENCODER FOR ALL ENVIRONMENTAL CONDITIONS!

The special features of the AR62/ 63 not only comprise its particularly rugged enclosure, but also generously dimensioned, rigid ball-bearings. Capable of withstanding even high axial and radial loads on its shaft axis, this encoder type easily achieves a mechanical life of 10^9 rotations at a permanent radial load of 200 N and simultaneously, an axial load of 200N.

The AR62/ 63 was designed to easily withstands highest accelerations, extreme climatic fluctuations and even underwater operation. In this way, our rugged absolute encoder is ideally suitable for applications in wind farms, marine or utility vehicle applications, as well as for use in presses or wood and stone processing machinery: applications where high resistance to harsh environments and maximum reliability are required at the same time.

The AR62 is electrically compatible with standard industrial drives. Available interfaces are SSI, BiSS, CANopen and Analogue (0 ... 10 V or 4 ... 20 mA).

Single turn resolution is 12 bit, i.e. one revolution (360°) is resolved into 4096 measuring steps. The AR62/23 comes with a breakthrough multiturn technology, that provides a unique set of advantages:

it operates contact less, self energetic, without battery and moving parts. Standard multi turn resolution is 16 Bit.

With an installed depth of only 32 mm, this encoder is the most compact type in its class. Valuable space has been saved - to the benefit of the overall machinery design.

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APPLICATIONS

Fields of application that clearly unfold the benefits of ACURO-XR:

- Construction machinery
- Utility vehicles / trucks
- Gantry cranes
- Marine equipment
- Offshore plants
- Wind power plants
- Commercial solar plants
- Food & Beverage Industry
- Filling plants
- Presses
- Your individual application

**TECHNICAL DATA
mechanical**

Housing diameter	58 mm
Mounting depth	32 mm
Shaft diameter ¹	10 mm (Solid shaft)
Flange (Mounting of housing)	Synchro clamping flange
Protection class shaft input (EN 60529)	IP67 or IP69k
Protection class housing (EN 60529)	IP67 or IP69k
Shaft load axial / radial	max.: 300 N / 300 N
Max. speed	max. 5000 rpm
Starting torque typ.	≤ 4.5 Ncm
Moment of inertia	25 gcm ²
Vibration resistance (DIN EN 60068-2-6)	200 m/s ²
Shock resistance (DIN EN 60068-2-27)	2000 m/s ² (6 ms)
Operating temperature	SSI, BiSS: -40 °C ... +100 °C CANopen, Analog: -40 °C ... +85 °C
Connection	Cable, radial M12 connector, radial

¹ 12 mm shaft on request

**TECHNICAL DATA
electrical**

Supply voltage	DC 10-30 V Analog: DC 17 - 30 V
EMC	EN 61326-1
Resolution singleturn	12 Bit
Resolution multiturn ^{1,2}	12 Bit, 16 Bit
Absolute accuracy ³	±1°
Repeatability	±0,2°
Control inputs	Preset, Direction

¹ Other resolution on request.

² Preset available for SSI, BiSS and Analogue interface.

Preset value: Zero (other on request).

Direction only for SSI.

³ ±0,6° on request

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**ELECTRICAL CONNECTIONS
BiSS/ SSI**

Color	PIN (M12, 8 poles)	Signal
yellow	6	Clock
pink	5	Data
green	4	Clock
grey	8	Data
white	1	UB
brown	2	0 V
red	3	Preset (set to 0) ¹
blue	7	Direction ¹
Screen	Screen	Screen

Preset and Direction high active :

Signal level high: $\geq 66\%$ Ub; low: $\leq 15\%$ Ub or unconnected

Bounce time preset: >2s

Bounce time direction: < 1 ms (dynamic)

**ELECTRICAL CONNECTIONS
CANopen**

Color cable	PIN (M12, 8 poles)	Signal
yellow	6	CAN in+
green	4	CAN in-
pink	5	CAN out+
grey	8	CAN out-
blue	7	CAN GND in
black*	3	CAN GND out
white	1	UB
brown	2	0 V
Screen	Screen	Screen

* cable color red for extension cable

**ELECTRICAL CONNECTIONS
Analog**

Color Cable	PIN	Signal
pink	5	0 ... 10 V (Voltage output max. 5 mA)
blue	7	0 ... 20 mA or 4 ... 20 mA (current output)
grey	8	AGND
red ²	3	preset (set to 0)
white	1	UB
brown	2	0 V
yellow ¹	6	
green ¹	4	
Screen	Screen	Screen

¹ Diagnostic signals only for service purposes. The cable wires have to be isolated.

² Preset low active :

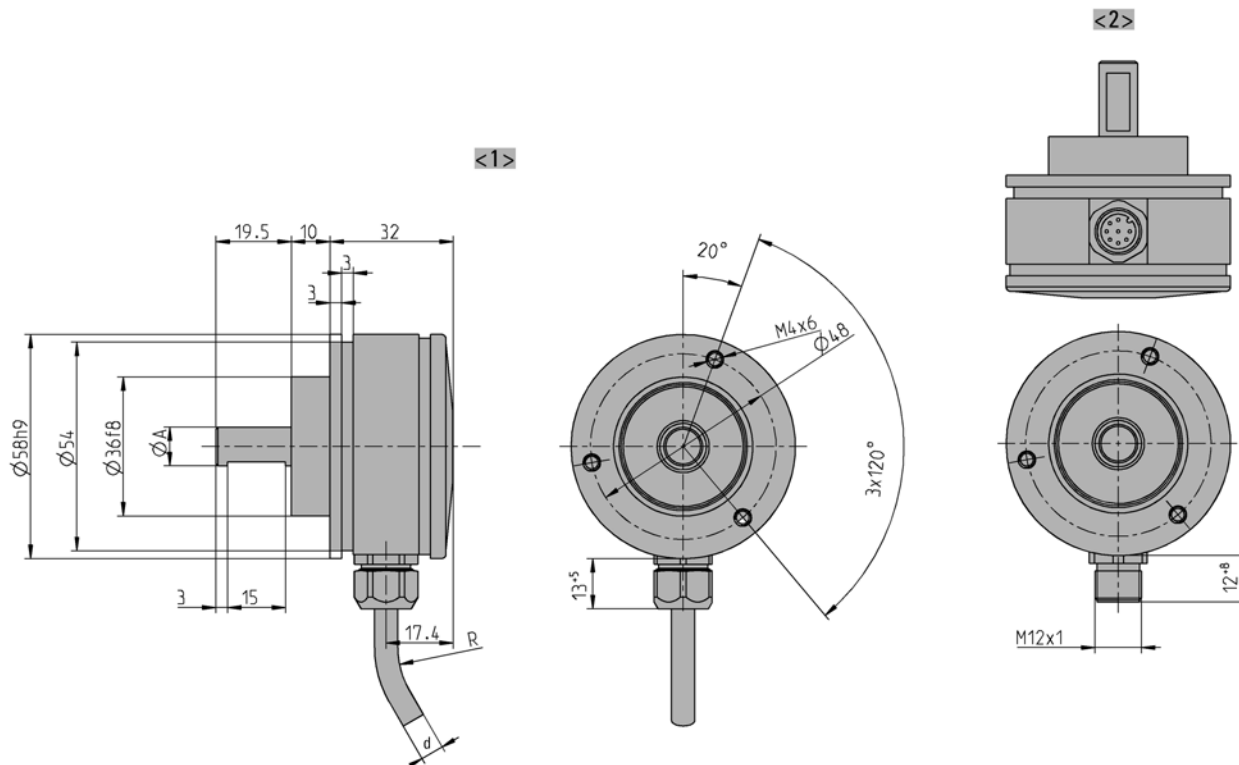
Signal level high: $\leq DC 2 V$

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DIMENSIONED DRAWINGS

Clamping flange



Mounting	
Flange, Protection, Shaft (see ordering information)	Shaft ϕA
L.72	10f8
L.92	10f8

<1> Connection "B": Cable radial

<2> Connection "8": M12, 8 pole

Cable ϕd BiSS/SSI: $7.1^{+1.2}$

Cable bending radius R for flexible installation $\geq 15 \times$ cable diameter

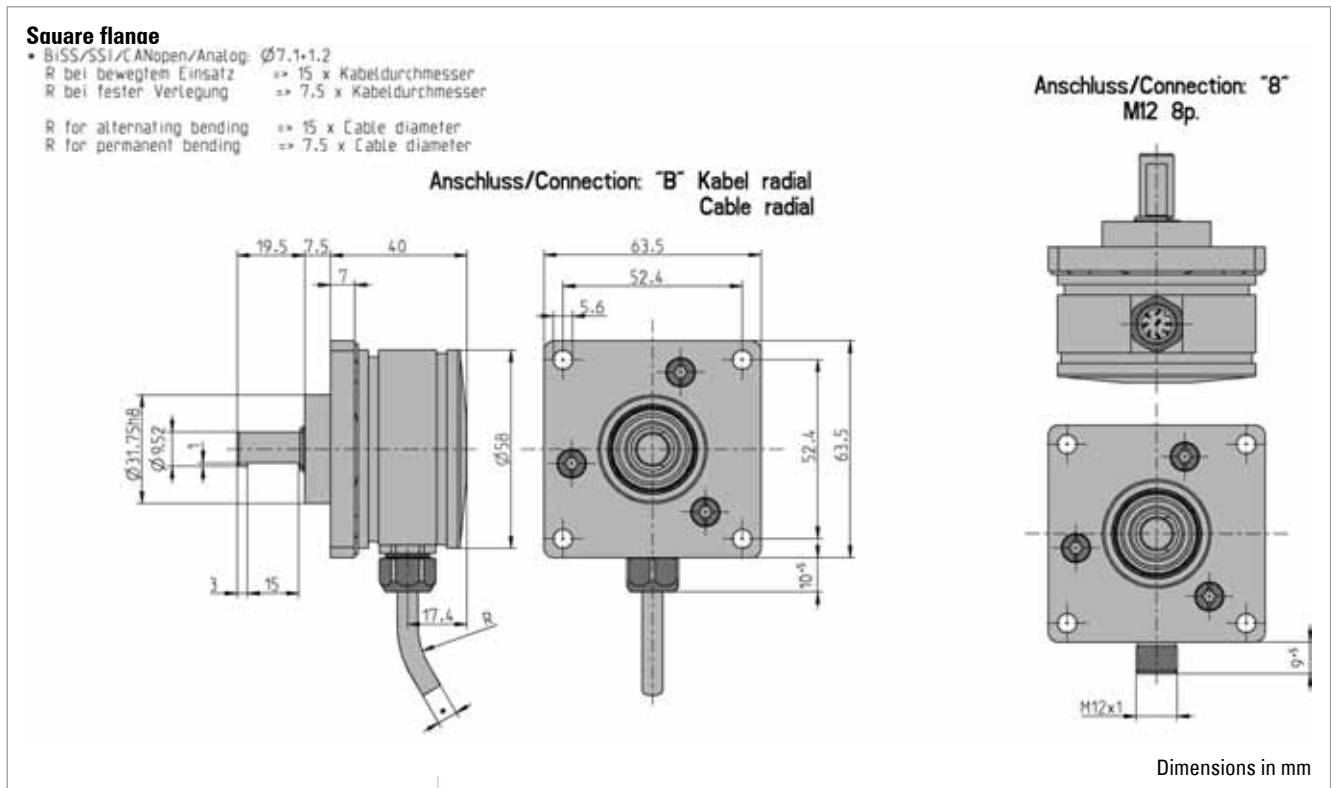
Cable bending radius R for fixed installation $\geq 7.5 \times$ cable diameter

Dimensions in mm

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DIMENSIONED DRAWINGS (continued)



ORDERING INFORMATION

Type	Resolution ¹	Supply voltage ⁴	Flange, Protection, Shaft	Interface ²	Connection ³
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AR62 Aluminum AR63 Stainless Steel	0012 12 Bit ST 1212 12 Bit MT + 12 Bit ST 1612 16 Bit MT + 12 Bit ST	F DC 17 - 30 V E DC 10 - 30 V	Q.76 Square, IP67, 9.52 mm Q.96 Square, IP69K, 9.52 mm L.72 Synchro clamping, IP67, 10 mm L.92 Synchro clamping, IP69k, 10 mm	SG SSI Gray OL CANopen AV Analog 0 ... 10 V A4 Analog 4 ... 20 mA BG BiSS Gray	B Cable, radial 8 M12 connector, 8 pole, radial

¹ Other resolution on request. MT not available with analog interface (A4, AV) or BiSS interface (BI).

² Standard setting CANopen: Bus termination not activated. External bus terminal resistor required.

³ M12 connector not available with stainless steel housing (AR63). IP67 and IP69k only guaranteed if mating plug connected correctly.

⁴ DC 17 - 30 V (F) only available with analog output (AV, A4).

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ORDERING INFORMATION
Selection of cable length

Versions with cable outlet (connection A, B, E or F) are available with various lengths of cable. To order your desired cable length, please add the respective code to the end of your ordering code. For variants with connector on cable end please add cable length code in between. Further cable lengths on request.

Code	Cable length
without code	1.5 m
-D0	3 m
-F0	5 m
-K0	10 m
-P0	15 m
-U0	20 m
-V0	25 m

Example:

Cable 3 m length: ... B - D0

Cable mit 3 m length and M23 connectorr, cw: ... B - D0 - I