

SERIES AR62/AR63 HENGSTLER

Magnetic Absolute Encoder

Key Features

- 12 Bit Single-Turn Resolution, up to 16 Bit Multi-Turn
- Stainless Steel or Aluminum Housing
- Wide -40° to 100°C Temperature Range
- Submersible – IP69K Sealing Available
- Rated to 200g Shock, 20g Vibration for Harsh Environments
- Oversized Bearings for up to 3x Life of Standard Absolute Encoders

HD
Heavy Duty



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS:

Code: Absolute, Magnetic
Absolute Accuracy: ±1°
Repeatability: ±0.2°

ELECTRICAL:

Noise Immunity: Tested to EN61326-1
Parametrization: Preset
Termination: Cable radial, PVC; M12 connector, radial; Cable radial for maritime approval

Interface: CANopen

Input Power: 10-30VDC (+10%)
Resolution: Single-turn: 12 Bit
Resolution: Multi-turn: 12, 13, 16 Bit

Interface: SSI

Input Power: 10-30VDC (+10%)
Resolution: Single-turn: 12 Bit

Interface: Analog

Input Power: 17-30VDC (+10%)

Analog Output Types:

Voltage: 0...10V
 Current: 4 - 20mA
 Analog Resolution: 12 Bit

Measuring Range in Degrees: 90°, 180°, 360°, others on request

Control Inputs: Preset, Direction

MECHANICAL:

Shaft Diameter: 3/8", 10 mm
Shaft Speed (maximum): 5000 rpm
Shaft Load (axial/radial): 300 N max.
Mounting Depth: 32 mm
Maximum Speed: max. 5,000 rpm;
Maximum Speed Analog: max. 1,500 rpm (continuous), Max 5,000 rpm (short term)
Starting Torque typ.: ≤ 4.5 Nm
Moment of inertia: 25 gcm²
Housing Material: Stainless Steel
Shaft Material: Stainless Steel
Weight:
 AR62 w/ 1.5m cable: approx. 480g
 AR62 w/ connector M12: approx. 250g
 AR63 w/ 1.5m cable: approx. 700g
 AR63 w/ connector M12: approx. 470g

ENVIRONMENTAL:

Standard Operating Temperature:
SSI: -40 °C ...+100 °C
With Maritime Approval (DNV GL): -40 °C ...+85 °C
Canopen, Analog: -40 °C ...+85 °C
Storage Temperature: -15 °C ...+85 °C
Shock: 2000 m/s² (6 ms)
Vibration: 200 m/s² (10 ... 2000 Hz)
Humidity: 75%, without condensation
Enclosure Rating: IP67 or IP69K

HENGSTLER SERIES AR62/AR63

Ordering Information

To order, complete the model number with code numbers from the table below:

CANopen

Code 1: Model	Code 2: Resolution ¹	Code 3: Output	Code 4: Flange ² /Protection/Shaft	Code 5: Interface ^{3,4}	Code 6: Termination ^{5,6,7}	Code 7: Cable Length
AR62/63	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Ordering Information						
AR62 Aluminum Code 4 Must be L.72 or L.92 and Code 6 Must be B or F AR63 Stainless Steel	0012 12 Bit ST 1212 12 Bit MT + 12 Bit ST 1312 13 Bit MT + 12 Bit ST 1612 16 Bit MT + 12 Bit ST	E DC 10-30 V	L.72 Synchro-Clamping, IP67 10 mm L.92 Synchro-Clamping, IP69K, 10 mm Q.76 Square flange, IP67, 9.52 mm Q.96 Square flange, IP69K, 9.52 mm	OL CAN Open ⁴	B Radial Cable F Radial Cable for Maritime (DNV GL) 8 M12 radial connector, 8-pin 5 M12 radial connector, 5-pin	Available only when Code 6 is B or F Blank 1.5m DO 3m FO 5m KO 10m PO 15m UO 20m VO 25m WO 30m XO 40m YO 50m

¹ Other resolution on request

² Square flange with stainless housing (AR63) on request

³ Standard setting CANopen: Bus termination not activated. External bus terminal resistor required.

⁴ E1 approval (only available with interface "OL" CANopen).

⁵ M12 Connector not available in stainless steel. IP67 and IP69k only guaranteed if mating plug connected correctly.

⁶ DNV GL approval only with connection "5", "8" or "F" available.

⁷ Maximum operating temperature with connection "F": -40°C ... +85°C.

SSI

Code 1: Model	Code 2: Resolution ¹	Code 3: Supply Voltage	Code 4: Flange ² , Protection, Shaft	Code 5: Interface	Code 6: Connection ^{3,4,5}
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
AR62 Aluminum Code 4 Must be L.72 or L.92 and Code 6 Must be B or F AR63 Stainless Steel	0012 12 Bit ST	E DC 10-30 V	L.72 Synchro-Clamping, IP67 10 mm L.92 Synchro-Clamping, IP69K, 10 mm Q.76 Square IP67, 9.52 mm Q.96 Square IP69K, 9.52 mm	SB SSI Binary SG SSI Gray	B Cable Radial standard types F Cable Radial with Maritime approval (DNV GL) 8 M12-connector, 8-pole, radial

¹ Other resolution on request

² Square flange with stainless housing (AR63) on request

³ M12 Connector not available in stainless steel. IP67 and IP69k only guaranteed if mating plug connected correctly.

⁴ DNV GL approval only with connection "8" or "F" available.

⁵ Maximum operating temperature with connection "F": -40°C ... +85°C.

HENGSTLER SERIES AR62/AR63

ANALOG

Code 1: Model	Code 2: Resolution ¹	Code 3: Output	Code 4: Flange ² /Protection/Shaft	Code 5: Interface	Code 6: Termination ^{3,4,5}	Code 7: Cable Length
AR62/63	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ordering Information						
AR62 Aluminum	Measuring range in degrees: G090 90° G180 180° G360 360° Other on request maximum 360°	F DC 17-30 V	L.72 Synchro-Clamping, IP67 10 mm	AV Analog 0 ... 10V	B Radial Cable F Radial Cable for Maritime (DNV GL) 8 M12 radial connector, 8-pin	Available only when Code 6 is B or F Blank 1.5m DO 3m FO 5m KO 10m PO 15m UO 20m VO 25m WO 30m XO 40m YO 50m
Code 4 Must be L.72 or L.92 and Code 6 Must be B or F			L.92 Synchro-Clamping, IP69K, 10 mm	A4 Analog 4 ... 20mA		
AR63 Stainless Steel			Q.76 Square flange, IP67, 9.52 mm			
			Q.96 Square flange, IP69K, 9.52 mm			

¹ Measuring Range G360 = 360° similar to former definition 0012 = 12 Bit ST.

² Square flange with stainless housing (AR63) on request.

³ M12 Connector not available in stainless steel. IP67 and IP69k only guaranteed if mating plug connected correctly.

⁴ DNV GL approval only with connection "5", "8" or "F" available.

⁵ Maximum operating temperature with connection "F": -40°C ... +85°C.

ELECTRICAL CONNECTIONS – CANopen

Cable Color	Signal	M12, 5 Pole	M12, 8 Pole
Yellow	CAN in+	4	6
Green	CAN in-	5	4
Pink	CAN out+	-	5
Grey	CAN out-	-	8
Blue	AN GND in	1	7
Black*	CAN GND out	-	3
White	UB	2	1
Brown	0 V	3	2
Screen	Screen	Screen	Screen

* Cable color is Red for extension cable

ELECTRICAL CONNECTIONS – SSI

Cable Color	M12, 8 Pole	Signal
Yellow	6	Clock
Pink	5	Data
Green	4	$\overline{\text{Clock}}$
Grey	8	$\overline{\text{Data}}$
Blue	7	Signal Direction ¹
White	1	UB
Brown	2	0V
Red	3	Preset (set to 0) ¹
Screen	Screen	Screen

Note:

¹ 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 – Analog

Cable Color	M12, 8 Pole	Signal
Pink	5	0 ... 10 V (Voltage), or 4 ... 20 mA (Current)
Blue ²	7	Direction (change value counting)
Grey	8	AGND (Analog ground)
Red ²	3	Preset (set to 0)
White	1	UB
Brown	2	0 V (connected with AGND)
Yellow ¹	6	Diagnostic 1
Green ¹	4	Diagnostic 2
Screen	Screen	Screen

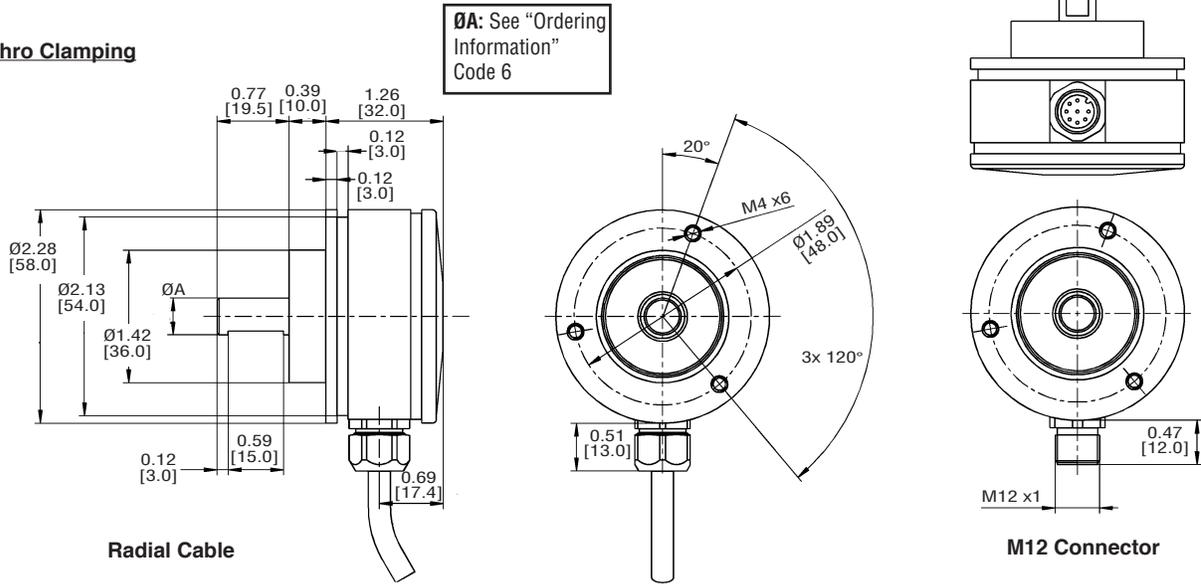
¹ Diagnostic signals only for service purposes. The cable wires have to be isolated.

² Preset and Direction low active: Signal level high $\leq DC 2 V$

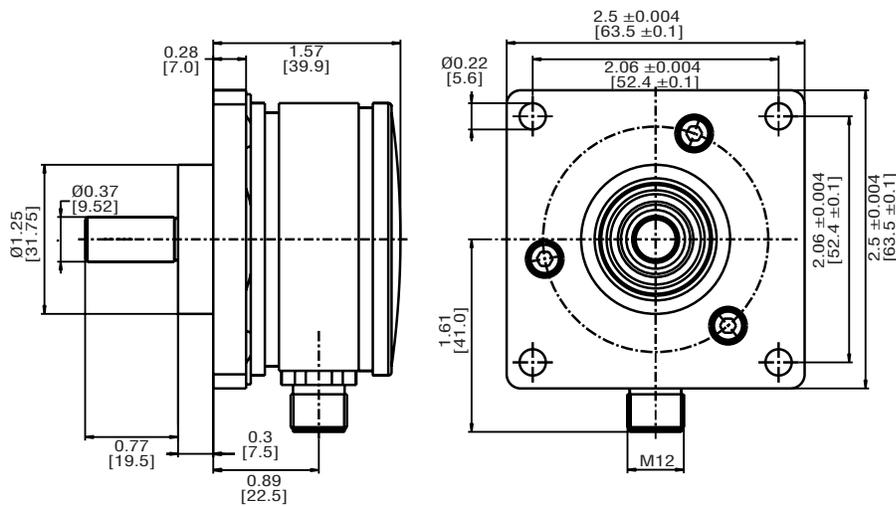
HENGSTLER SERIES AR62/AR63

DIMENSIONS inch
[mm]

Synchro Clamping



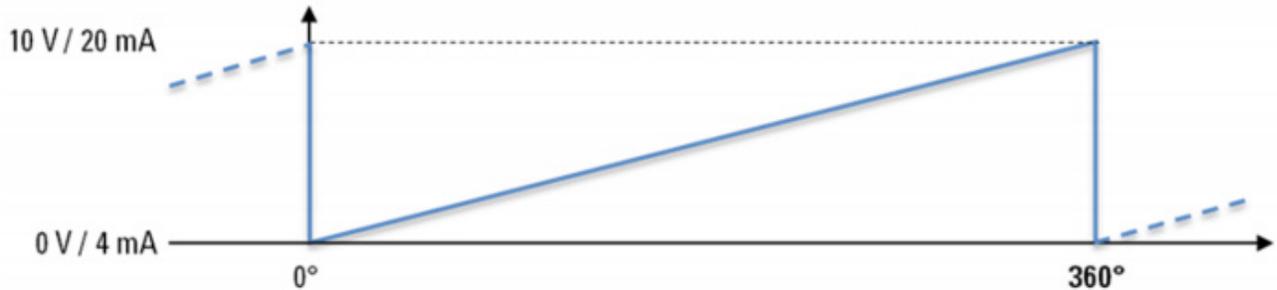
Square Flange



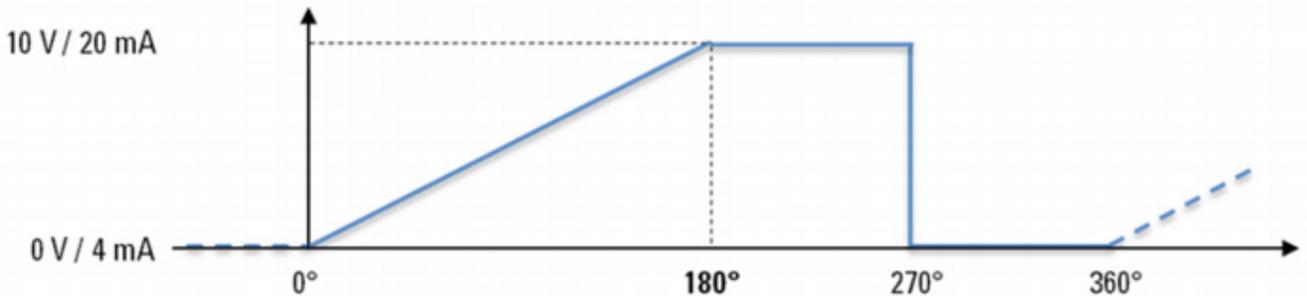
HENGSTLER SERIES AR62/AR63

ANALOG OUTPUT SIGNALS

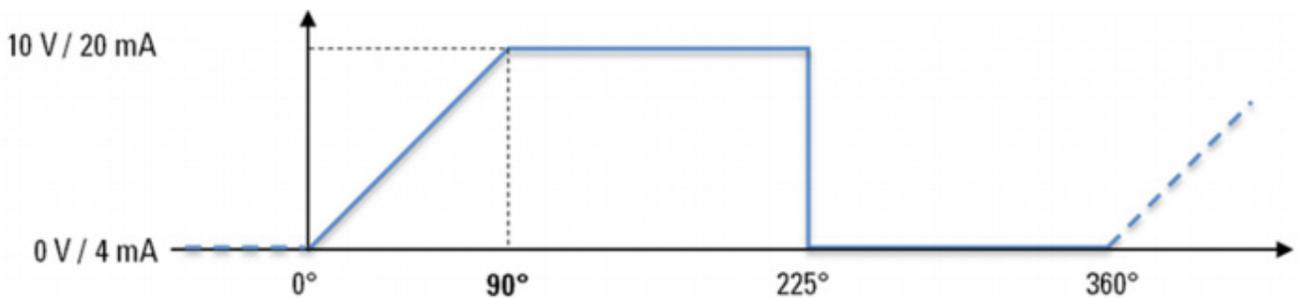
Measuring Range 360°



Measuring Range 180°



Measuring Range 90°



Note: Default Setting is output signal rotation CW (Clockwise) with a view from shaft end.



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