

# SERIES AR62/AR63 HENGSTLER

## Magnetic Absolute Encoder

### Key Features

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

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

**Interface:** Analog  
**Input Power:** 17-30VDC (+10%)  
**Resolution Analog:**  
 AV: 0...10V (Voltage)  
 A4: 4...20mA (Current)  
**Measuring Range in Degrees:** 90°, 180°, 360°, others on request  
**Measuring Range in Resolutions:** 4, 8, 16 revolutions, 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

### MECHANICAL (Cont.):

**Moment of inertia:** 25 gcm<sup>2</sup>  
**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/s<sup>2</sup> (6 ms)  
**Vibration:** 200 m/s<sup>2</sup> (10 ... 2000 Hz)  
**Humidity:** 75%, without condensation  
**Enclosure Rating:** IP67 or IP69K

### ELECTRICAL CONNECTIONS – SSI

Cable Color	PIN	Signal
Yellow	6	Clock
Pink	5	Data
Green	4	Clock
Grey	8	Data
Blue	7	Signal Direction <sup>1</sup>
White	1	UB
Brown	2	0V
Red	3	Preset (set to 0) <sup>1</sup>
Screen	Screen	Screen

Note:

<sup>1</sup> Preset and Direction high active :  
 Signal level high: ≥ 66% Ub; low: ≤ 15% Ub or unconnected  
 Bounce time preset: >2s  
 Bounce time direction: < 1 ms (dynamic)

### ELECTRICAL CONNECTIONS – CANopen

Color Cable	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	CAN 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 – Analog

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

<sup>1</sup> Diagnostic signals only for service purposes. The cable wires have to be isolated.

<sup>2</sup> Preset and Direction low active: Signal level high ≤ DC 2 V

# HENGSTLER SERIES AR62/AR63

## Ordering Information

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

### SSI, CANopen

Code 1: Model	Code 2: Resolution <sup>1</sup>	Code 3: Output	Code 4: Flange <sup>2</sup> /Protection/Shaft	Code 5: Interface <sup>3,4</sup>	Code 6: Termination <sup>5,6,7,8</sup>	Code 7: Cable Length
<b>AR62/63</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Ordering Information						
<b>AR62</b> Aluminum <b>AR63</b> Stainless Steel	<b>0012</b> 12 Bit ST <b>1212</b> 12 Bit MT + 12 Bit ST <b>1312</b> 13 Bit MT + 12 Bit ST <b>1612</b> 16 Bit MT + 12 Bit ST	<b>E</b> DC 10-30 V	<b>L.72</b> Synchro-Clamping, IP67 10 mm <b>L.92</b> Synchro-Clamping, IP69K, 10 mm <b>Q.76</b> Square flange, IP67, 9.52 mm <b>Q.96</b> Square flange, IP69K, 9.52 mm	<b>OL</b> CAN Open <sup>9</sup> <b>SB</b> SSI-Binary <b>SG</b> SSI-Gray	<b>B</b> Radial Cable <b>F</b> Radial Cable for Maritime (DNV GL) <b>8</b> M12 radial connector, 8-pin <b>5</b> M12 radial connector, 5-pin	Available only when Code 6 is B or F <b>Blank</b> 1.5m <b>DO</b> 3m <b>FO</b> 5m <b>KO</b> 10m <b>PO</b> 15m <b>UO</b> 20m <b>VO</b> 25m <b>WO</b> 30m <b>XO</b> 40m <b>YO</b> 50m

<sup>1</sup> Other resolution on request

<sup>2</sup> Square flange with stainless housing (AR63) on request

<sup>3</sup> Standard setting CANopen: Bus termination not activated. External bus terminal resistor required.

<sup>4</sup> E1 approval only with interface "OL" CANopen available.

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

<sup>6</sup> DNV GL approval only with connection "5", "8" or "F" available.

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

<sup>8</sup> Connection "5" M12-connector 5-pole only available with interface "OL" CANopen.

<sup>9</sup> E1 approval (only available with interface "OL" CANopen)

### ANALOG

Code 1: Model	Code 2: Resolution <sup>1,2</sup>	Code 3: Output	Code 4: Flange <sup>3</sup> /Protection/Shaft	Code 5: Interface <sup>3,4</sup>	Code 6: Termination <sup>4,5</sup>	Code 7: Cable Length
<b>AR62/63</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Ordering Information						
<b>AR62</b> Aluminum <b>AR63</b> Stainless Steel	Measuring range in degrees: <b>G090</b> 90° <b>G180</b> 180° <b>G360</b> 360° Other on request  Measuring range in revolutions: <b>U004</b> 4 revolutions <b>U008</b> 8 revolutions <b>U016</b> 16 revolutions Other on request	<b>F</b> DC 17-30 V	<b>L.72</b> Synchro-Clamping, IP67 10 mm <b>L.92</b> Synchro-Clamping, IP69K, 10 mm <b>Q.76</b> Square flange, IP67, 9.52 mm <b>Q.96</b> Square flange, IP69K, 9.52 mm	<b>AV</b> Analog 0 ... 10V <b>A4</b> Analog 4 ... 20mA	<b>B</b> Radial Cable <b>F</b> Radial Cable for Maritime (DNV GL) <b>8</b> M12 radial connector, 8-pin	Available only when Code 6 is B or F <b>Blank</b> 1.5m <b>DO</b> 3m <b>FO</b> 5m <b>KO</b> 10m <b>PO</b> 15m <b>UO</b> 20m <b>VO</b> 25m <b>WO</b> 30m <b>XO</b> 40m <b>YO</b> 50m

<sup>1</sup> Coding of the measuring range in degree or revolutions.

<sup>2</sup> Measuring Range G360 = 360° similar to former definition 0012 = 12 Bit ST.

<sup>3</sup> Square flange with stainless housing (AR63) on request.

<sup>4</sup> M12 Connector not available in stainless steel. IP67 and IP69k only guaranteed if mating plug connected correctly.

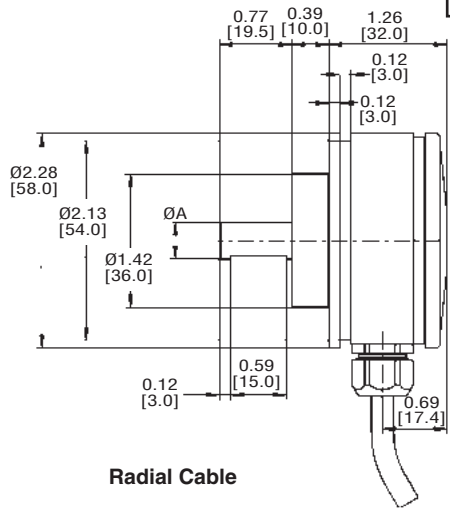
<sup>5</sup> DNV GL approval only with connection "5", "8" or "F" available.

<sup>6</sup> Maximum operating temperature with connection "F": -40°C ... +85°C.

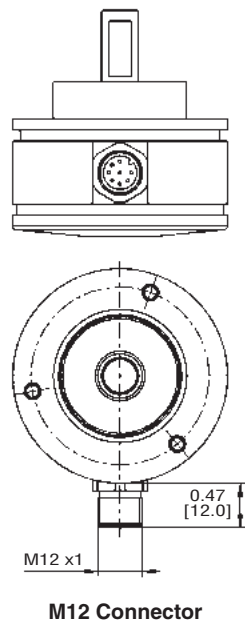
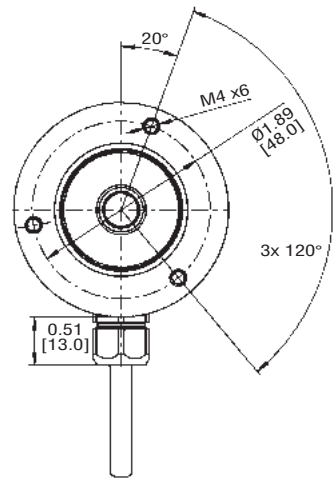
# HENGSTLER SERIES AR62/AR63

DIMENSIONS inch  
[mm]

**Synchro Clamping**



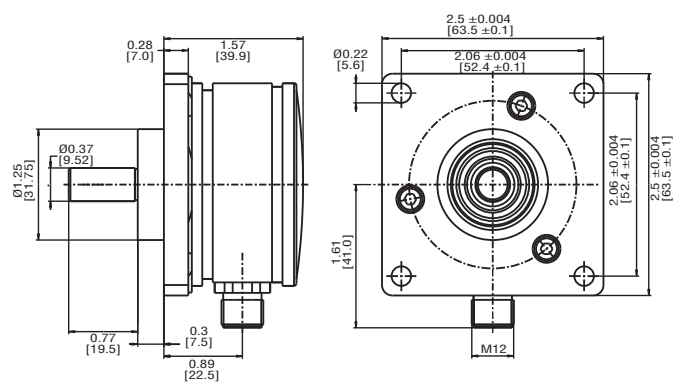
ØA: See "Ordering Information" Code 6



Radial Cable

M12 Connector

**Square Flange**



Worldwide Brands: NorthStar™ • Dynapar™ • Hengstler™ • Harowe™



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