

# SERIES AD36

# HENGSTLER

## Single- / Multi- Turn Absolute Encoder

### Key Features

- Compact Dimensions Compatible with Size 15 Resolvers
- Up to 22 Bit Singleturn and 12 Bit True Multiturn Absolute Positioning
- Optional Sinewave 1Vpp Output for Easy Integration Into Older Controls



EN61326-1



## SPECIFICATIONS

### STANDARD OPERATING CHARACTERISTICS:

**Code:** Absolute  
**Resolution Single-turn:** 12-22 Bit  
**Resolution Multi-turn:** 12 Bit  
**Absolute Accuracy:**  $\pm 35''$   
**Repeatability:**  $\pm 7''$

### ELECTRICAL:

**Interface:** BiSS & SSI  
**Input Power:** DC 5 V -5 %/+10 % or DC 7 - 30 V  
**Current w/o load typ.:** 5V: 100 mA (ST), 150 mA (MT),  
 10-30V: 100 mA (ST), 150 mA (MT)  
**Permissible load:** Max. 30 mA  
**Output Code:** Gray  
**Drives:** Clock and Data / RS422  
**Incremental Signals:** Sine-Cosine 1 Vpp  
**Number of Pulses:** 2048  
**3dB Limiting Frequency:** 500 kHz  
**Alarm Output:** Alarm bit (SSI Option), Warning bit and alarm bit (BiSS)

### ELECTRICAL (Cont.):

**Frequency Response (Baud Rate):**  
 SSI: 100kHz ... 1,5MHz  
 BiSS-B/BiSS-C: 100kHz ... 10 MHz  
**Noise Immunity:** Tested to EN61326-1  
**Electrical Immunity:** Reverse Polarity and Short Circuit Protected for the 7-30 VDC Only  
**Termination:** Cable, PCB connector, 12 pole

### MECHANICAL:

**Housing Diameter:** 38.1 mm  
**Shaft Diameter:** 8mm (Hollow Shaft)  
**Shaft Material:** Stainless Steel  
**Shaft Load (solid-shaft):** Axial  $\leq 5$  N; Radial  $\leq 10$  N  
**Shaft Load (hub shaft):** Spring Tether Tolerance: Axial  $\pm 0.5$ mm; Radial  $\pm 0.05$ mm  
**Maximum Speed:** max. 10 000 rpm (continuous), max. 12 000 rpm (short term)  
**Starting torque typ.:** 1 Ncm  
**Moment of inertia:** Approx. 2.5 gcm<sup>2</sup>  
**Mounting:** Spring Tether (Hollow Shaft)  
**Housing Material:** Plastic  
**Disc Material:** Glass  
**Weight:** 80g (2.8 oz.) (ST) / 130g (4.6 oz.)(MT)

### ENVIRONMENTAL:

**Standard Operating Temperature:** -40 °C ...+120 °C  
**Storage Temperature:** -15 °C ...+85 °C  
**Shock (DIN EN 60068-2-27):** 1,000 m/s<sup>2</sup> for 6 msec duration (IEC 68-2-27)  
**Vibration (DIN EN 60068-2-6):** 100 m/s<sup>2</sup> (10 to 2000 Hz) (IEC 68-2-6)  
**Humidity:** 75%, non-condensing  
**Enclosure Rating:** (EN 60529/A1:2000-02): IP40 Housing & Shaft

## CONNECTIONS

PIN	1b	2b	3b	4b	5b	6b
Function	DC 5V / 7-30V (U <sub>p</sub> )	Clock	B -	0 V (U <sub>n</sub> )	A -	Data
Color	White	Yellow	Gray/Pink	Brown	Brown/Green	Pink
PIN	1a	2a	3a	4a	5a	6a
Function	Data	A +	0 V -Sen	B +	Clock	5V Sensor
Color	Gray	White/Green	Black	Red/Blue	Green	Violet

U<sub>p</sub> = power Supply  
 Sensor is connected to Power Supply and 0 V (U<sub>n</sub>)  
 Shield connected to case

Analog signals (1Vpp) only available with interface  
 SC (SSI Gray +1Vpp), BC (BiSS-B +1Vpp) and  
 BV (BiSS-C +1Vpp)

### Ordering Information

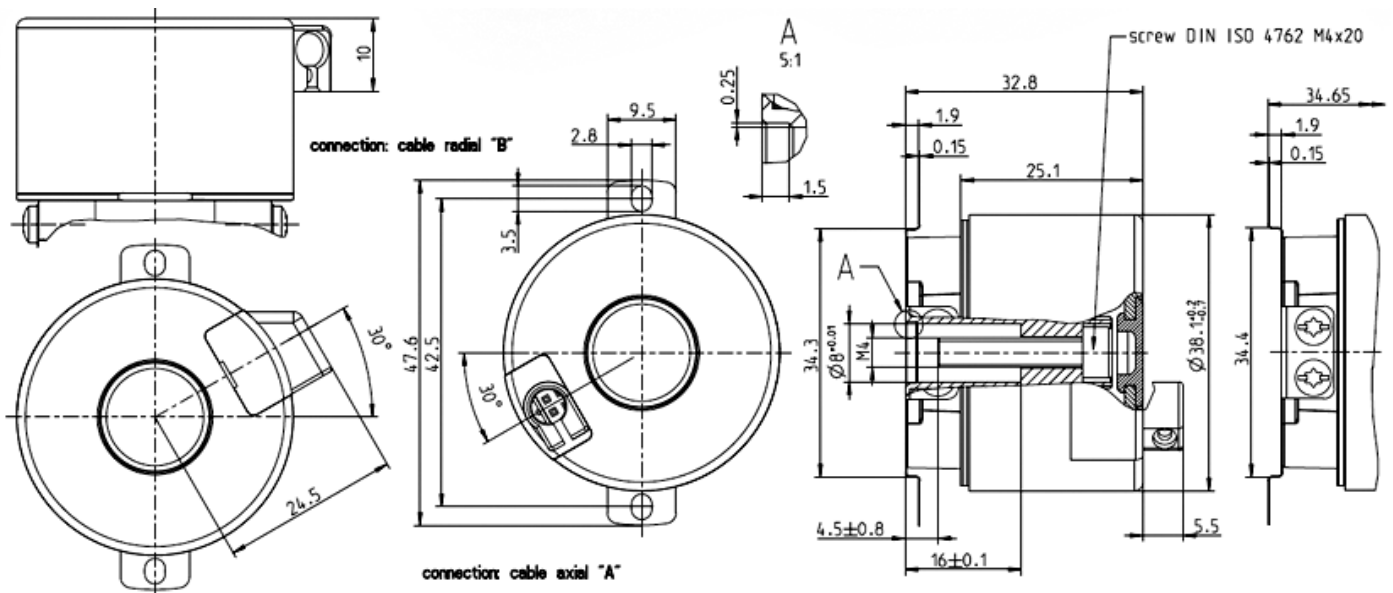
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: Resolution	Code 3: Voltage	Code 4: Flange/Protection/Shaft	Code 5: Output	Code 6: Termination
<b>AD36</b>	□□□□	□	□.□□	□□	□
<b>AD36</b> Absolute Encoder	<b>0012</b> 12 Bit ST <b>0013</b> 13 Bit ST <b>0014</b> 14 Bit ST <b>0017</b> 17 Bit ST <b>0019</b> 19 Bit ST <b>0022</b> 22 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>1217</b> 12 Bit MT +17 Bit ST <b>1219</b> 12 Bit MT +19 Bit ST <b>1222</b> 12 Bit MT +22 Bit ST	<b>A</b> 5 VDC* <b>E</b> 7-30 VDC	<b>F.OC</b> Spring Tether F, Legs Backward, IP40, 8mm Through Hollow Shaft  <b>F.OR</b> Spring Tether F, Legs Backward, IP40, 8mm Hub Shaft  <b>U.OR</b> Spring Tether U, Legs Forward, IP40, 8 mm Hub Shaft  <b>U.OC</b> Spring Tether U, Legs Forward, IP40, 8 mm Through Hollow Shaft	<b>BC</b> BiSS-B (+SinCos 1Vpp) <b>SC</b> SSI Gray (+SinCos 1Vpp) <b>BV</b> BiSS- C (+SinCos 1Vpp) <b>SD</b> SSI-Binary (+SinCos 1Vpp)  BI, SG, BE, SB available ONLY when Code 6: is A or B <b>BI</b> BiSS-B <b>BE</b> BiSS- C <b>SB</b> SSI-Binary <b>SG</b> SSI-Gray	<b>0</b> PCB Connector, Axial, 12 pole <b>2</b> PCB Connector, Radial, 12 pole <b>A</b> PCB Connector, Axial, 12 pole with Mating Connector and 0.5 m Cable <b>B</b> PCB Connector, Radial, 12 pole with Mating Connector and 0.5 m Cable

\*No inverse-polarity protection for 5V power supply.

### DIMENSIONS mm

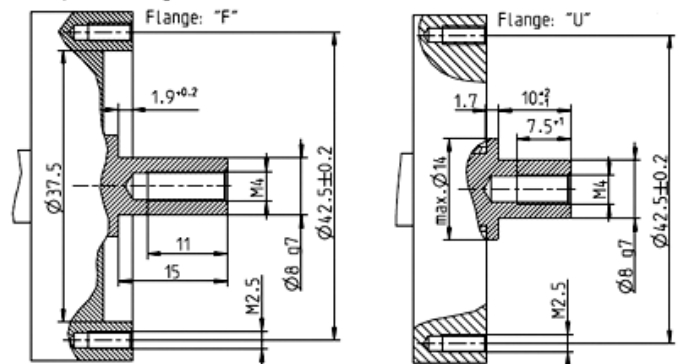
#### HUB SHAFT WITH SPRING TETHER "F"



flange, protection, shaft "F.OR"

flange, protection, shaft "U.OR"

#### required mating dimensions



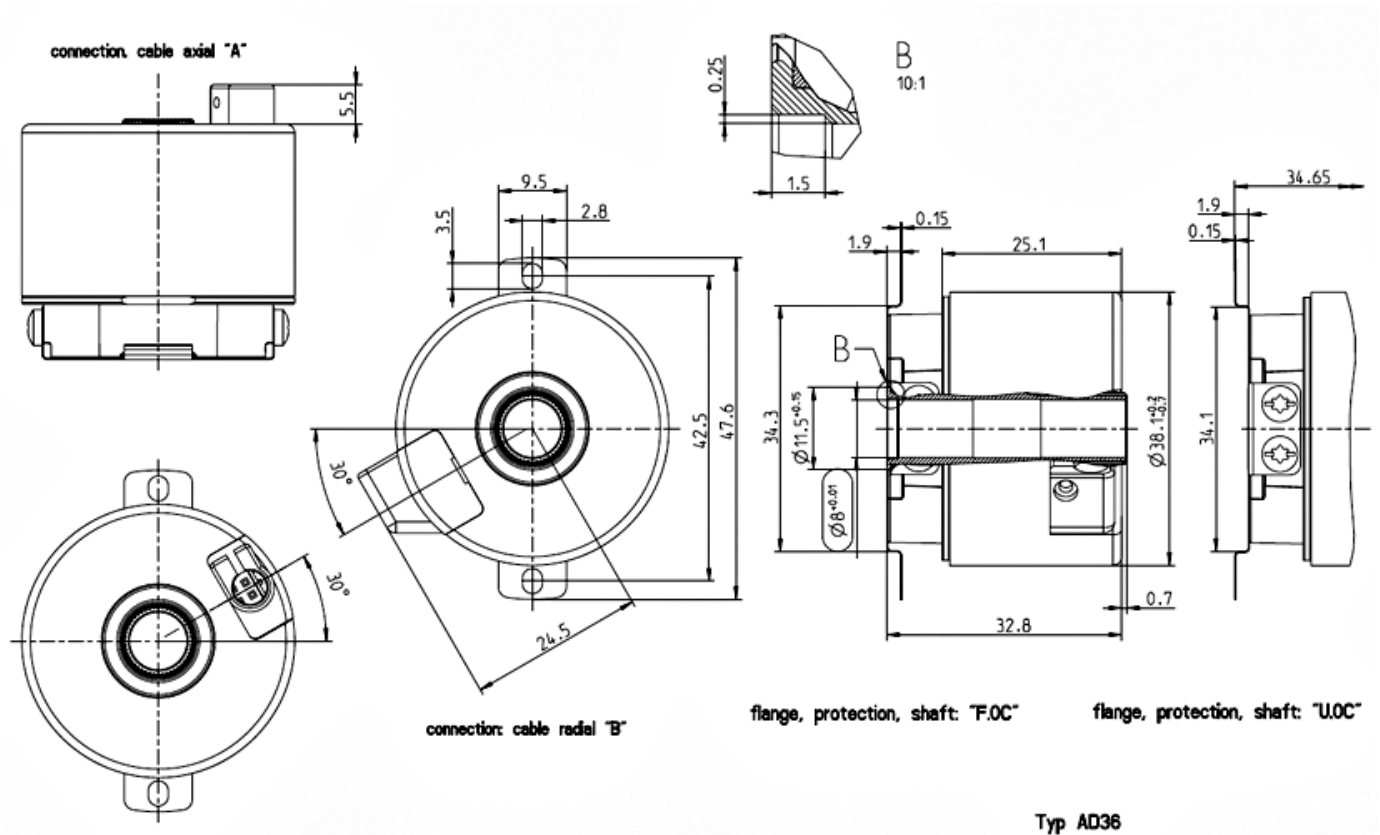
Typ AD36

# SERIES AD36



## DIMENSIONS mm

HOLLOW SHAFT WITH SPRING TETHER "F"



SERVO DUTY

# HENGSTLER

by  **DYNAPAR™**

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