

ATD 2A B14 Y 1

Solid shaft ø6 mm with synchro flange

Optical singleturn encoders with analog output

Overview

- Analog signals
- 14 bit singleturn
- Internal self-diagnostic
- Voltage output or current output
- Factory-set adjustable angle (0° - 360°)
- Centering alignment ø50 mm, mounting screw hole circle ø68 mm
- Flange connector radial
- Easy signal processing



Technical data

Technical data - electrical ratings

Voltage supply	+UB= 12...30 VDC (IS-/US-version)
Reverse polarity protection	Yes
Consumption w/o load	≤50 mA (24 VDC)
Interface	Analog (4...20 mA or 0...10 V)
Load resistor	≥1 kΩ (recommended 10 kΩ) / voltage output ≤500 Ω (recommended 470 Ω) / current output
Function	Singleturn
Measuring range	90°, 180°, 360°
Steps per revolution	16384 / 14 bit
Sensing method	Optical
Updating values	≤130 μs
Code sequence	CW: ascending values with clockwise sense of rotation; looking at mounting surface
Output stages	Voltage output (short-circuit proof) Current output (short-circuit proof)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

Technical data - mechanical design

Size (flange)	ø58 mm
Shaft type	ø6 mm solid shaft
Flange	Synchro flange
Protection EN 60529	IP 65
Operating speed	≤12000 rpm (mechanical) ≤6000 rpm (electric)
Starting torque	≤0.01 Nm (+20 °C)
Admitted shaft load	≤20 N axial ≤40 N radial
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	-20...+85 °C
Relative humidity	90 % non-condensing
Resistance	EN 60068-2-6 Vibration 10 g, 55-2000 Hz EN 60068-2-27 Shock 30 g, 11 ms
Weight approx.	430 g
Connection	Connector M23 type 2, 12-pin

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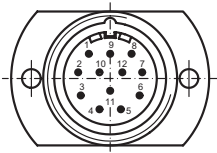
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Terminal assignment

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Connector	Assignment
Pin 1	NC
Pin 2	NC
Pin 3	NC
Pin 4	GND _{OUT}
Pin 5	U _{OUT} resp. I _{OUT}
Pin 6	NC
Pin 7	reset
Pin 8	V/R
Pin 9	error
Pin 10	GND
Pin 11	NC
Pin 12	UB

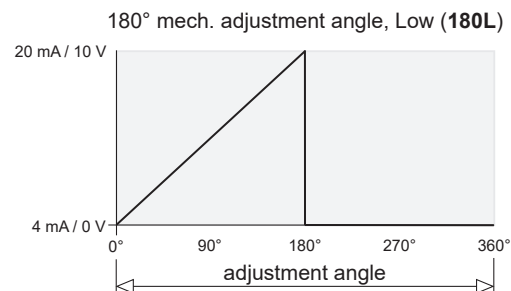
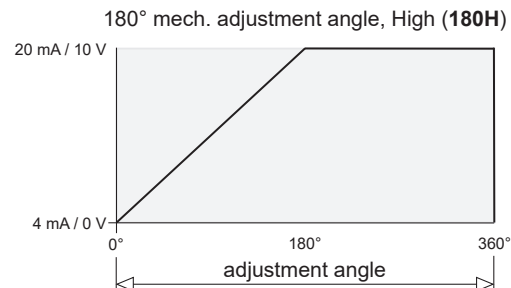
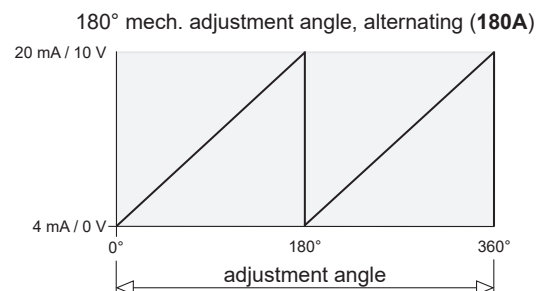
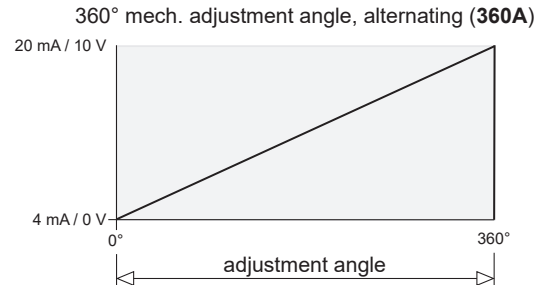


Terminal significance

+UB	Encoder supply voltage.
GND	Encoder ground connection relating to UB.
U _{OUT}	Voltage output increasing at clockwise rotation when looking at the mounting side.
I _{OUT}	Current output increasing at clockwise rotation when looking at the mounting side.
GND _{OUT}	Reference voltage for analogue output.
Reset	Reset input for setting zero position value at any desired point within the entire resolution. The resetting process is triggered by apply of UB.
V/R	V/R counting direction input. This input is standard on High. V/R means increasing values with clockwise shaft rotation when looking at the mounting side. V/R-Low means decreasing values with clockwise shaft rotation when looking at the mounting side.
Error	Diagnostic output (Open Collector with internal 10 k Ω pullup-resistor). The output is low-active, that means if no fault submitted, the output is +UB.

Output signals

Unipolar Output (IS-/US-version)



Trigger level

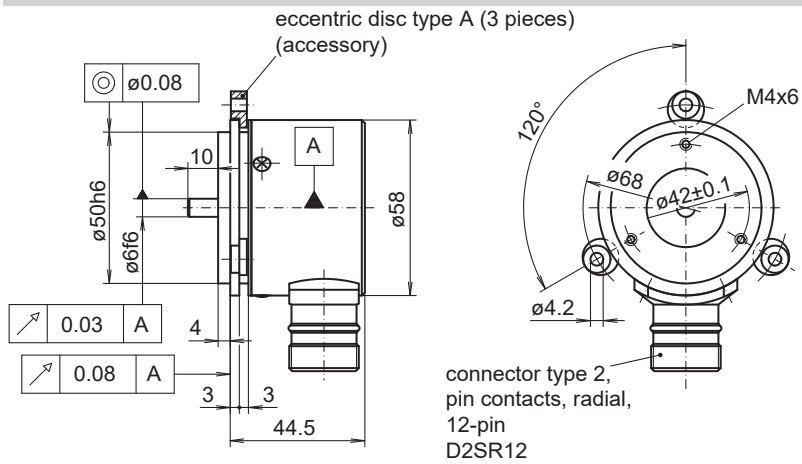
Control input	Input circuit
Input level High	$\geq 0,7 \text{ UB}$
Input level Low	$\leq 0,3 \text{ UB}$
Input resistance	10 k Ω
Diagnostic outputs	Output circuit
Output level	Open Collector with internal 10 k Ω PullUp-resistance

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Dimensions



028- 7 Y 1

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Ordering reference

	ATD 2A B14 Y 1	####	##	D2SR12	S	6	IP65
Product	ATD 2A B14 Y 1						
Resolution							
360° mech. adjustment angle, alternating (singleturn)		360A					
180° mech. adjustment angle, alternating (singleturn)		180A					
180° mech. adjustment angle, High (singleturn)		180H					
180° mech. adjustment angle, Low (singleturn)		180L					
Interface							
Current output, standard, 4...20 mA, Vin = 12...30 VDC			IS				
Voltage output, standard, 0...+10 VDC, Vin = 12...30 VDC			US				
Connection							
Flange connector type 2, pin contacts, radial, 12-pin				D2SR12			
Operating temperature							
-20...+85 °C					S		
Flange / Solid shaft							
Synchro flange / ø6 mm						6	
Protection							
IP 65							IP65

Other adjustment on request.

Accessories

Mounting accessories

11065545 Set of eccentric fixings type A