

# ATD 2A B14 Y 1

 Solid shaft  $\varnothing 6$  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 ( $0^\circ$  -  $360^\circ$ )
- Centering alignment  $\varnothing 50$  mm, mounting screw hole circle  $\varnothing 68$  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	$\leq 50$ mA (24 VDC)
Interface	Analog (4...20 mA or 0...10 V)
Load resistor	$\geq 1$ k $\Omega$ (recommended 10 k $\Omega$ ) / voltage output $\leq 500$ $\Omega$ (recommended 470 $\Omega$ ) / current output
Function	Singleturn
Measuring range	$90^\circ$ , $180^\circ$ , $360^\circ$
Steps per revolution	16384 / 14 bit
Sensing method	Optical
Updating values	$\leq 130$ $\mu$ s
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	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3

### Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 6$ mm solid shaft
Flange	Synchro flange
Protection DIN EN 60529	IP 65
Operating speed	$\leq 12000$ rpm (mechanical) $\leq 6000$ rpm (electric)
Starting torque	$\leq 0,01$ Nm ( $+20^\circ\text{C}$ )
Admitted shaft load	$\leq 20$ N axial $\leq 40$ N radial
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	$-20...+85^\circ\text{C}$
Relative humidity	90 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 10 g, 55-2000 Hz DIN EN 60068-2-27 Shock 30 g, 11 ms
Weight approx.	430 g
Connection	Connector M23 type 2, 12-pin

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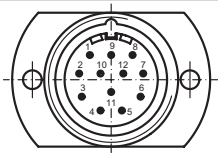
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## Terminal assignment

### ATD 2A B14 Y 1

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

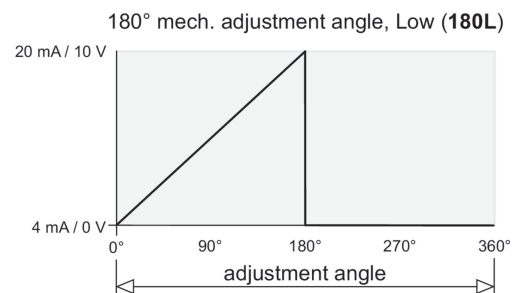
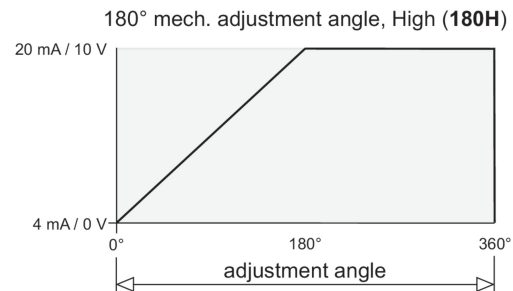
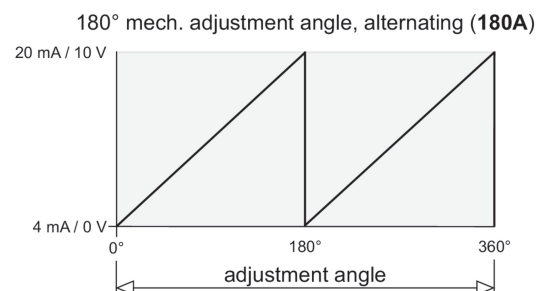
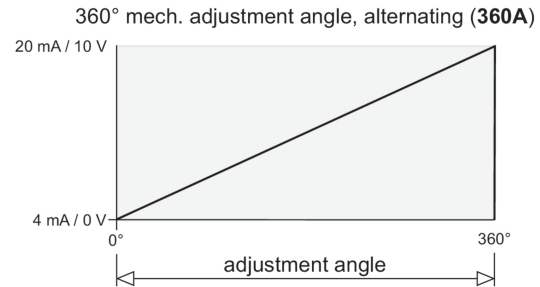


## Terminal significance

+UB	Encoder supply voltage.
GND	Encoder ground connection relating to UB.
U <sub>OUT</sub>	Voltage output increasing at clockwise rotation when looking at the mounting side.
I <sub>OUT</sub>	Current output increasing at clockwise rotation when looking at the mounting side.
GND <sub>OUT</sub>	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 $\Omega$ 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	$\geq 0,7$ UB
Input level Low	$\leq 0,3$ UB
Input resistance	10 k $\Omega$

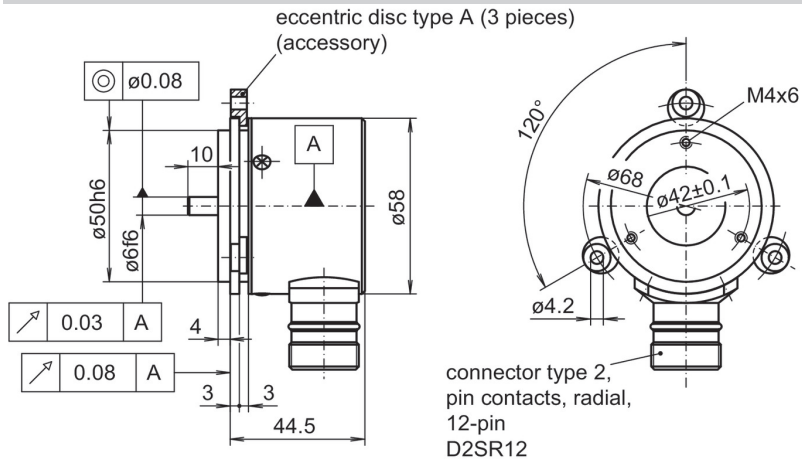
Diagnostic outputs	Output circuit
Output level	Open Collector with internal 10 k $\Omega$ PullUp-resistance

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## Dimensions



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## Ordering reference

	ATD 2A B14 Y 1	####	##	D2SR12	S	6	IP65
<b>Product</b>	ATD 2A B14 Y 1						
<b>Resolution</b>							
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					
<b>Interface</b>							
Current output, standard, 4...20 mA, Vin = 12...30 VDC				IS			
Voltage output, standard, 0...+10 VDC, Vin = 12...30 VDC				US			
<b>Connection</b>							
Flange connector type 2, pin contacts, radial, 12-pin				D2SR12			
<b>Operating temperature</b>							
-20...+85 °C					S		
<b>Flange / Solid shaft</b>							
Synchro flange / ø6 mm						6	
<b>Protection</b>							
IP 65							IP65

Other adjustment on request.

## Accessories

### Mounting accessories

11065545 Set of eccentric fixings type A

### Connectors and cables

11070180 Connector S2BG12, 10 m cable (ATD analog)