

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° - 360°)
- 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	≤ 50 mA (24 VDC)
Interface	Analog (4...20 mA or 0...10 V)
Load resistor	≥ 1 k Ω (recommended 10 k Ω) / 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 μ 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

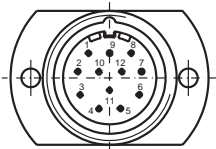
Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 6$ mm solid shaft
Flange	Synchro flange
Protection DIN EN 60529	IP 65
Operating speed	≤ 12000 rpm (mechanical) ≤ 6000 rpm (electric)
Starting torque	$\leq 0,01$ Nm ($+20^\circ$ C)
Admitted shaft load	≤ 20 N axial ≤ 40 N radial
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	$-20...+85^\circ$ 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

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

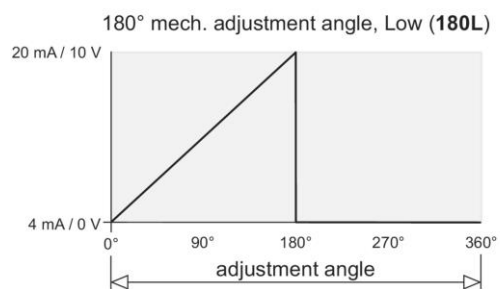
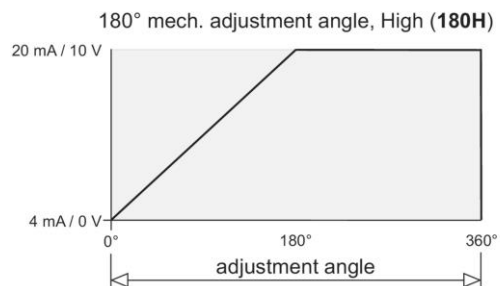
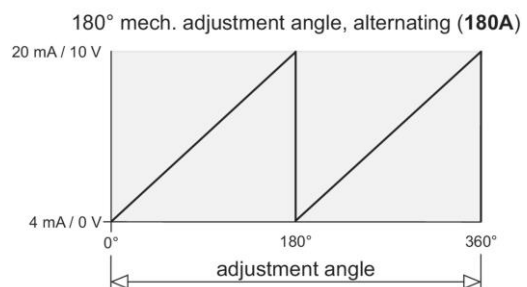
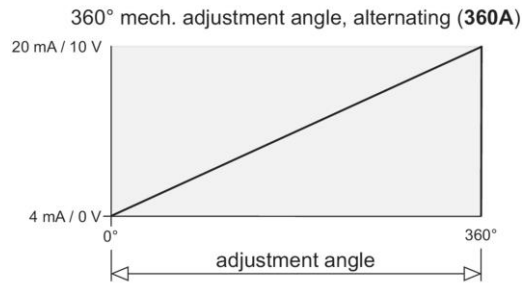


Terminal significance

+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	$\geq 0,7$ UB
Input level Low	$\leq 0,3$ UB
Input resistance	10 k Ω

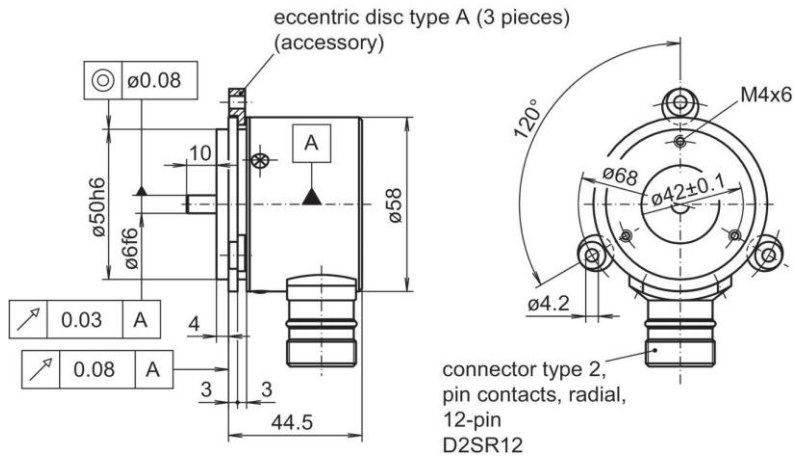
Diagnostic outputs	Output circuit
Output level	Open Collector with internal 10 k Ω PullUp-resistance

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Dimensions



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Ordering reference

ATD 2A B14 Y 1 ### # D2SR12 S 6 IP65

Product

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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
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Operating temperature

-20...+85 °C	S
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Flange / Solid shaft

Synchro flange / ø6 mm	6
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Protection

IP 65	IP65
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Other adjustment on request.

Accessories

Mounting accessories

11065545	Set of eccentric fixings type A
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Connectors and cables

11070180	Connector S2BG12, 10 m cable (ATDanalog)
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