

ATD 2S B14 Y21

Solid shaft $\varnothing 10$ mm with clamping flange

Optical singleturn encoders 13 bit ST

Overview

- Encoder singleturn / SSI
- Optical sensing method
- Resolution: singleturn 13 bit
- Centering alignment $\varnothing 36$ mm, mounting screw hole circle $\varnothing 48$ mm
- Flange connector radial



Technical data

Technical data - electrical ratings

Voltage supply	10...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 50 mA (24 VDC)
Interface	SSI
Function	Singleturn
Steps per revolution	8192 / 13 bit
Sensing method	Optical
Code	Gray
Code sequence	CW: ascending values with clockwise sense of rotation; looking at mounting surface
Output stages	SSI data: linedriver RS485
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 10$ mm solid shaft (clamping flange)

Technical data - mechanical design

Flange	Clamping flange
Protection EN 60529	IP 67 (at shaft entrance)
Operating speed	≤ 5000 rpm (mechanical) ≤ 8000 rpm (electric)
Starting torque	≤ 0.05 Nm (+20 °C)
Admitted shaft load	≤ 40 N axial ≤ 60 N radial
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	-30...+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.	350 g
Connection	Connector M16, 7-pin

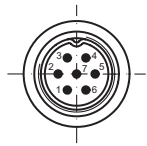
ATD 2S B14 Y21

Solid shaft $\varnothing 10$ mm with clamping flange

Optical singleturn encoders 13 bit ST

Terminal assignment

Connector	Assignment
Pin 1	GND
Pin 2	data+
Pin 3	data-
Pin 4	clock+
Pin 5	clock-
Pin 6	–
Pin 7	UB



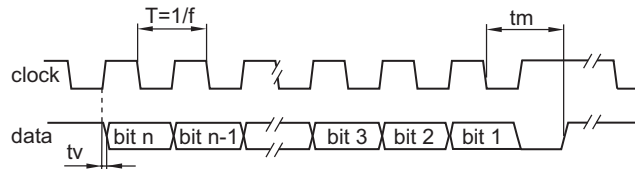
Terminal significance

UB	Encoder supply voltage.
GND	Encoder ground connection relating to UB.
Data+	Positive, serial data output of differential linedriver.
Data-	Negative, serial data output of differential linedriver.
Clock+	Positive SSI clock input. Clock+ together with clock- forms a current loop. A current of approx. 7 mA towards clock+ input means logic 1 in positive logic.
Clock-	Negative SSI clock input. Clock- together with clock+ forms a current loop. A current of approx. 7 mA towards clock- input means logic 0 in positive logic.

Trigger level

SSI	Circuit
SSI-Clock	Receiver RS485
SSI-Data	Linedriver RS485

Data transfer



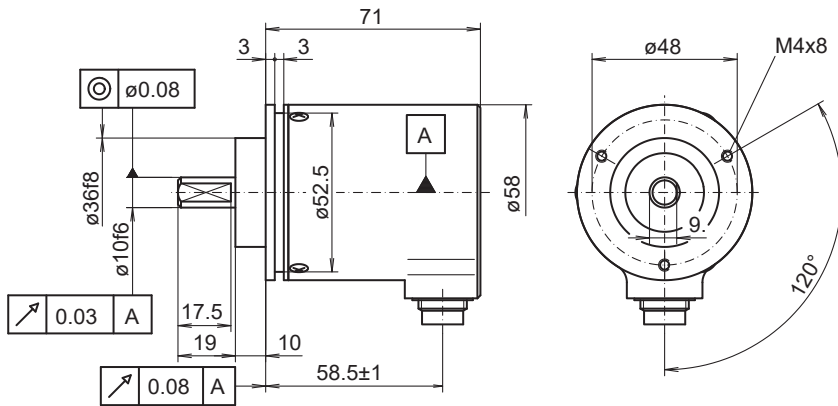
Clock frequency f	80...1000 kHz
Duty cycle of T	40...60 %
Delay time tv	150 ns
Monoflop time tm	20 μ s + T/2
Clock interval tp	26 μ s

ATD 2S B14 Y21

Solid shaft $\varnothing 10$ mm with clamping flange

Optical singleturn encoders 13 bit ST

Dimensions



028- 7 Y21

ATD 2S B14 Y21

Solid shaft ø10 mm with clamping flange

Optical singleturn encoders 13 bit ST

Ordering reference

	ATD 2S B14 Y21	13	SS	GR	D1SR7	M	10	IP65
Product	ATD 2S B14 Y21							
Resolution		13						
13 bit singleturn								
Interface			SS					
Serial SSI								
Output signals				GR				
Gray code								
Connection					D1SR7			
Flange connector type 1, pin contacts, radial, 7-pin								
Operating temperature						M		
-30...+85 °C								
Flange / Solid shaft							10	
Clamping flange / ø10 mm								
Protection								IP65
IP 65								