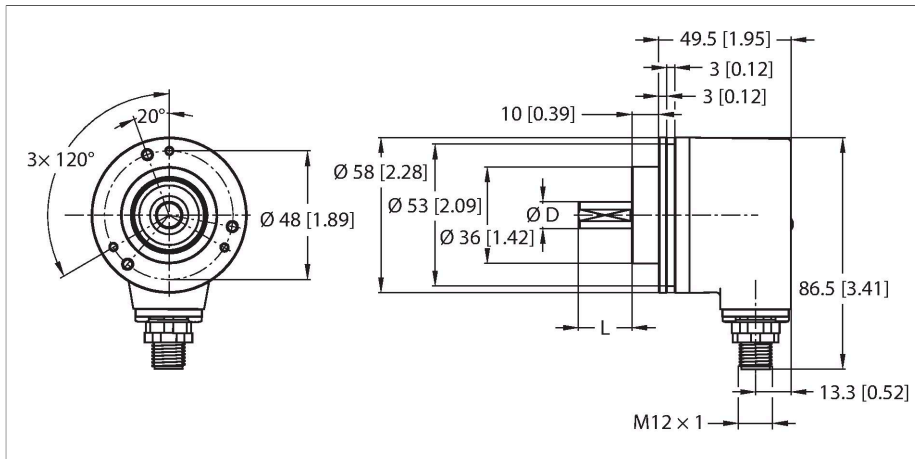


# RES-186S10C-3C13B-H1181

## Absolute Rotary Encoder - Singleturn

### Industrial Line



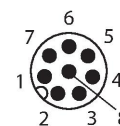
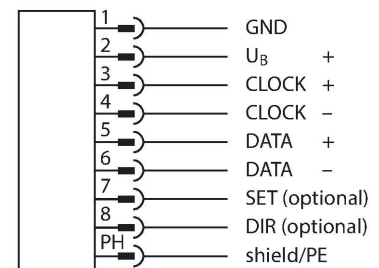
#### Technical data

Type	RES-186S10C-3C13B-H1181
ID	100016315
Measuring principle	Optical
<b>General data</b>	
Max. rotational speed	8000 rpm
Starting torque	< 0.03 Nm
Measuring range	0...360 °
Absolute accuracy	± 0.015 ° At 25 °C
Output type	Absolute singleturn
Resolution singleturn	13 Bit
<b>Electrical data</b>	
Operating voltage $U_B$	10...30 VDC
No-load current	≤ 45 mA
Output current	≤ 20 mA
Short-circuit protection	yes
Wire break/reverse polarity protection	yes
Signal level high	typ. 3.8 V
Signal level low	typ. 1.3 V (20 mA load)
Communication protocol	SSi
Output function	Gray coded
<b>Mechanical data</b>	
Flange type	Clamping flange
Flange diameter	Ø 58 mm
Shaft Type	Solid shaft
Shaft diameter D (mm)	10
Shaft Length L [mm]	20

#### Features

- Clamping flange, Ø 58 mm
- Solid shaft, Ø 10 mm × 20 mm
- Optical measuring principle
- Shaft material: stainless steel
- Protection class IP67 on housing and shaft side
- -40...+85 °C
- Max. 8000 rpm (continuous operation 5000 rpm)
- 10...30 VDC
- SSI, gray
- M12 × 1 male, 8-pin
- 360° resolved in 13 bit (8192 positions)

#### Wiring diagram



## Technical data

Shaft material	Stainless steel
Housing material	Die-cast zinc
Electrical connection	Connector, M12 × 1
Axial shaft load	40 N
Radial shaft load	80 N
<b>Environmental conditions</b>	
Ambient temperature	-40...+85 °C
Vibration resistance (EN 60068-2-6)	100 m/s <sup>2</sup> , 55...2000 Hz
Shock resistance (EN 60068-2-27)	2500 m/s <sup>2</sup> , 6 ms
Protection class	IP67
Protection class shaft	IP67

## Accessories

<p><b>RA-BC-20-06-10</b></p> <p>100048779</p> <p>Bellows coupling with aluminum hub Ø 20 mm; d1 = 6 mm, d2 = 10 mm</p> <p>2 mm 1.5 Nm</p>	<p><b>RA-BC-20-08-10</b></p> <p>100048781</p> <p>Bellows coupling with aluminum hub Ø 20 mm; d1 = 8 mm, d2 = 10 mm</p> <p>2 mm 1.5 Nm</p>
<p><b>RA-BC-20-10-10</b></p> <p>100048782</p> <p>Bellows coupling with aluminum hub Ø 20 mm; d1 = 10 mm, d2 = 10 mm</p> <p>2 mm 1.5 Nm</p>	<p><b>RA-BC-20-10-12</b></p> <p>100048783</p> <p>Bellows coupling with aluminum hub Ø 20 mm; d1 = 10 mm, d2 = 12 mm</p> <p>2 mm 1.5 Nm</p>
<p><b>RA-BC-E-20-06-10</b></p> <p>100048786</p> <p>Stainless steel bellows coupling Ø 20 mm; d1 = 6 mm, d2 = 10 mm</p> <p>2 mm 0.7 Nm</p>	<p><b>RA-BC-E-20-10-10</b></p> <p>100048787</p> <p>Stainless steel bellows coupling Ø 20 mm; d1 = 10 mm, d2 = 10 mm</p> <p>2 mm 0.7 Nm</p>
<p><b>RA-BC-E-20-10-12</b></p> <p>100048788</p> <p>Stainless steel bellows coupling Ø 20 mm; d1 = 10 mm, d2 = 12 mm</p> <p>2 mm 0.7 Nm</p>	<p><b>RA-SDC-30-10-10</b></p> <p>100048792</p> <p>Spring disc coupling Ø 30 mm; d1 = 10 mm, d2 = 10 mm</p> <p>2.5 mm 1.2 Nm</p>
<p><b>RA-SDC-30-10-12</b></p> <p>100048793</p> <p>Spring disc coupling Ø 30 mm; d1 = 10 mm, d2 = 12 mm</p> <p>2.5 mm 1.2 Nm</p>	<p><b>RA-HC-25-10-10</b></p> <p>100048796</p> <p>Aluminum helix coupling Ø 25 mm; d1 = 10 mm, d2 = 10 mm</p> <p>2 mm 1.2 Nm</p>
<p><b>RA-HC-25-10-12</b></p> <p>100048797</p> <p>Aluminum helix coupling Ø 25 mm; d1 = 10 mm, d2 = 12 mm</p> <p>2 mm 1.2 Nm</p>	

Accessories

Dimension drawing	Type	ID	
	RA-MW-200-12-DK1-10	100038302	Aluminum measuring wheel (cross knurled) for encoders; circumference 0.2 m, width 12 mm, D = 10 mm
	RA-MW-200-12-PS1-10	100038303	Aluminum measuring wheel (smooth PU) for encoders; circumference 0.2 m, width 12 mm, D = 10 mm
	RA-MW-200-12-RT1-10	100038304	Aluminum measuring wheel (studded PU) for encoders; circumference 0.2 m, width 12 mm, D = 10 mm
	RA-MW-200-12-PC1-10	100038305	Aluminum measuring wheel (grooved PU) for encoders; circumference 0.2 m, width 12 mm, D = 10 mm
	RA-MW-500-25-DK1-10	100038314	Aluminum measuring wheel (cross knurled) for encoders; circumference 0.5 m, width 25 mm, D = 10 mm
	RA-MW-500-25-PS1-10	100038315	Aluminum measuring wheel (smooth PU) for encoders; circumference 0.5 m, width 25 mm, D = 10 mm
	RA-MW-500-25-RT1-10	100038316	Aluminum measuring wheel (studded PU) for encoders; circumference 0.5 m, width 25 mm, D = 10 mm

Dimension drawing	Type	ID	
	RA-MW-500-25-PC1-10	100038317	Aluminum measuring wheel (grooved PU) for encoders; circumference 0.5 m, width 25 mm, D = 10 mm
	RA-MW-300-12-DK1-10	100038306	Aluminum measuring wheel (cross knurled) for encoders; circumference 0.3 m, width 12 mm, D = 10 mm
	RA-MW-300-12-PS1-10	100038307	Aluminum measuring wheel (smooth PU) for encoders; circumference 0.3 m, width 12 mm, D = 10 mm
	RA-MW-300-12-RT1-10	100038308	Aluminum measuring wheel (studded PU) for encoders; circumference 0.3 m, width 12 mm, D = 10 mm
	RA-MW-300-12-PC1-10	100038309	Aluminum measuring wheel (grooved PU) for encoders; circumference 0.3 m, width 12 mm, D = 10 mm
	RA-SAB-15-36	100038251	Spring arm for encoders with a 58-mm flange; recommended contact pressure 15 N; maximum contact pressure 30 N
	RA-SAB-30-36	100038294	Spring arm for encoders with a 58-mm flange; recommended contact pressure 30 N; maximum contact pressure 40 N