



**İMAJ TEKNİK**  
ELEKTRİK ELEKTRONİK MALZ. SAN. VE TİC. LTD. ŞTİ



## **POSITAL** **FRABA**

### ABSOLUTE ROTARY ENCODER PROFIBUS-DP



#### **Main Features**

- Compact and heavy-duty industrial model
- Certified: By Profibus Trade Org., CE
- Interface: Profibus-DP
- Housing: 58 mm  $\varnothing$
- Shaft: 6 or 10 mm  $\varnothing$
- Hollow Shaft: 12 mm  $\varnothing$
- Resolution: Max. 25 Bit = 33,554,432 steps over 4,096 revolutions
- Code: Binary

#### **Programmable Parameters**

- Direction of rotation (complement)
- Resolution per revolution
- Total resolution
- Preset value
- Output of velocity
- Time base for velocity
- Software Limit Switches

#### **Mechanical Structure**

- Flange and housing of Aluminum
- Shaft of stainless steel
- Precision ball bearings with sealing or cover rings
- Code disc made of unbreakable and durable plastic

#### **Electrical Features**

- status indication with two LEDs in the connection cap
- 400 million write cycles
- Temperature insensitive IR-opto-receiver-array
- Polarity inversion protection
- Over-voltage-peak protection

ABSOLUTE ROTARY ENCODER  
PROFIBUS-DP

**Technical Data**

**Electrical Data**

Supply voltage	10 - 30 V DC (absolute limits)
Power consumption	max. 3.5 Watts
EMC	EN 50081-2, EN 61000-6-2
Bus connection	Line-driver according to RS 485 galvanically isolated by opto-couplers
Transmission rate	max. 12 Mbaud
Accuracy of division	$\pm \frac{1}{2}$ LSB
Step frequency LSB	Max. 100 kHz (valid code)
Electrical lifetime	$> 10^5$ h
Device addressing	Programmable by rotary switches in connection cap

**Mechanical Data**

Housing	Aluminum, optional stainless steel		
Lifetime	Fa $\leq$ 250 N, Fr $\leq$ 250 N: $1 \cdot 10^8$ revolutions		
	Fa $\leq$ 40 N, Fr $\leq$ 110 N: $3 \cdot 10^9$ revolutions		
Inertia of rotor	$\approx 50 \text{ gcm}^2$		
RPM	Max. 6,000 (continuously)		
Shock (EN 60068-2-27)	$\leq 30 \text{ g}$ (halfsine, 11 ms)		
Permanent shock (EN 60028-2-29)	$\leq 10 \text{ g}$ (halfsine, 16 ms)		
Vibration (EN 60068-2-6)	$\leq 10 \text{ g}$ (10 Hz ... 1,000 Hz)		
Weight, Singletum / Multitum	$\approx 500 \text{ g} / \approx 700 \text{ g}$		
Friction torque	$\leq 5 \text{ Ncm}$		
<b>Flange</b>	<b>Synchro (Y)</b>	<b>Clamp (F), Synchro (Z)</b>	<b>Hollow shaft (H)</b>
Shaft diameter	6 mm	10 mm	12 mm
Shaft length	10 mm	20 mm	
Hollow Shaft depth min. / max.			15 / 30 mm

**Environmental Conditions**

Operating temperature	0 ... + 70 °C, optional extended	
Storage temperature	- 40 ... + 85 °C	
Humidity	98 % (without liquid state)	
Protection class (EN 60529)		
Casing side	IP 65	
Shaft side	IP 65*	(* up to 0.5 bar)



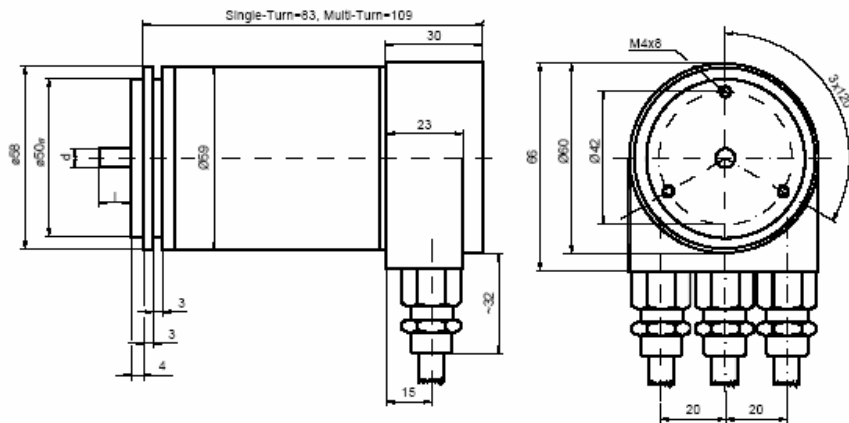
## ABSOLUTE ROTARY ENCODER PROFIBUS-DP

### Mechanical Drawings

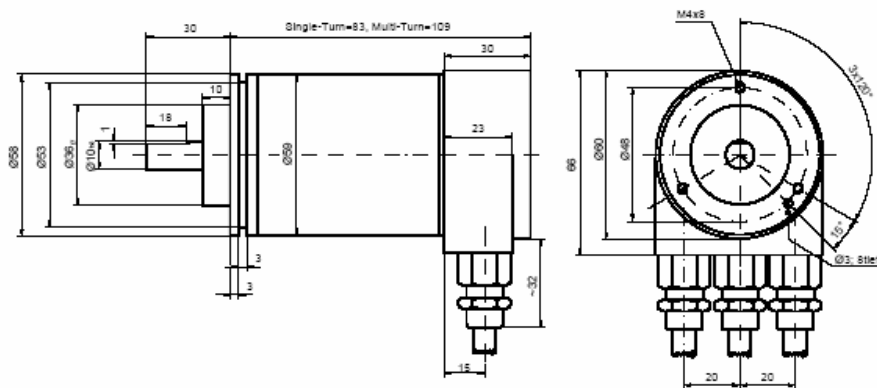
#### Synchro Flange (Y, Z)

The only difference between the Y- and Z-Flange is the shaft size (6 or 10 mm, refer to the table besides).

	d / mm	l / mm
Y-Flange	6 <sub>f8</sub>	10
Z-Flange	10 <sub>h8</sub>	20



#### Clamp Flange (F)





## ABSOLUTE ROTARY ENCODER PROFIBUS-DP

### Models/Ordering Description

Description	Type Key									
Absolute rotary encoder	<b>AWC</b>	<b>58</b>	...	....	B	B1	DP			3PG
Diameter in mm										
Steps per revolution	4096	<b>12</b>								
	8192	13								
No. of revolutions	1		<b>1</b>							
	4096		<b>4096</b>							
Flange	Clamp Flange (Shaft = 10 mm Ø)				F					
	Synchro Flange (Shaft = 6 mm Ø)				Y					
	Synchro Flange (Shaft = 10 mm Ø)				Z					
	Hollow Shaft (12 mm)				H					
Code	Binary					<b>B</b>				
Version								<b>B1</b>		
Interface	Profibus-DP programmable acc. Class 2							<b>DP</b>		
Options	Without									<b>0</b>
	Shaft sealing (not possible for Z-Flange)									W
	Stainless steel configuration (flange, housing)									Q
Connection	Connection Cap									<b>3PG</b>
	Has to be ordered separately – see accessories									

Standard = bold, further models on request

### Accessories and Documentation

Description		Type
Connection cap	T-coupling-functionality with integrated address setting	AH 58-B1DP-3PG
	Standard	
	Stainless steel configuration	AH 58-B1DP-3PG-VA
Connection cap "2M20" - special version -	Same function as standard cap but only two cable glands for cable diameters from 9 up to 13 mm	AH 58-B1DP-2M20
Shaft coupling	Drilling: 10 mm	GS 10
	Drilling: 6 mm	GS 06
Disc with GSD-file *	Must be ordered once encoder is used for the first time	DK-AWC-DP
Clamp disc	4 pcs. / AWC	SP 15
Clamp ring	2 pcs. / AWC	SP H
User manual *	Installation / configuration manual for Profibus, English	UME-B1DP
User manual *	Installation / configuration manual for Profibus, German	UMD-B1DP

These can be downloaded free of charge from our homepage [www.posital.de](http://www.posital.de).

We do not assume responsibility for technical inaccuracies or omissions. Specifications are subject to change without notice.

İM



İmaj Teknik Elektrik Elektronik San. ve Tic. Ltd. Şti.

EMEKYEMEZ MAH.TUTSAK SOK. NO: 16/13-14-15  
KARAKOY/İSTANBUL  
TURKEY

Telefon : +90 212 235 9535 / 36      www.ijajteknik.com  
Fax : +90 212 235 9537              www.ijajteknik.com.tr