

# MYM Series Resolver Product Family

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20-165 OD Frame Size

[www.mdsmotor.com](http://www.mdsmotor.com)



**MDS Motor**  
Feel the perfect motion...

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Vatan Cad. No:83 |41275 |  
Başiskele, Kocaeli, Türkiye

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# MYM Series Resolvers

MDS has several new resolvers for your applications.

MYM series resolvers present options in different inner and outer diameters, different axial lengths and different operating frequencies. Resolvers can be easily mounted for servomotors, direct-drive rotary stages, robotic joints, and actuator applications in different industries due to their robust and durable designs.

MYM series resolvers are the perfect choice for applications that operate in conditions involving extreme temperature, high vibration and dirty environments.

## Main Features and Benefits

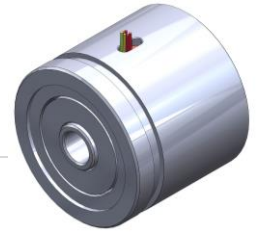
- 8 resolver sizes
- Different frequency operations for each size
- Provide accurate, absolute position feedback
- High reliability
- Wide temperature range (-50°C / up to +155°C)
- Rugged design resistant against electrical noise, shock, high acceleration, vibration, pressure and vacuum
- High speed rotation
- Possible multi-speed design
- Brushless, lightweight devices consuming little power

## Main specifications of MYM Series Resolvers



## Features

- Hollow shaft ID: 4 mm
- Outer diameter: 20.32 mm
- Length: 18 mm

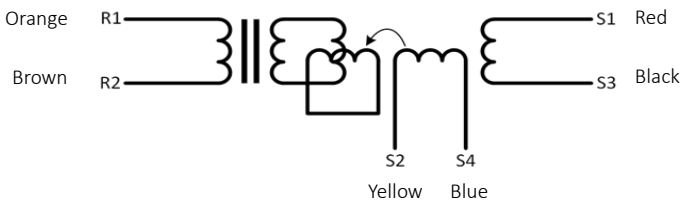


## MYM-08 Electrical Data

MDS.MYM-08-1P-A01R

Primary Side	R <sub>1</sub> -R <sub>2</sub>
Pole pairs	1
Transformation ratio	0.5±10%
Input Voltage	7 V <sub>rms</sub> – (5V <sub>rms</sub> )
Input Current	63 mA – (45mA)
Input frequency	10 kHz
Phase shift	-20° ± 2°
Null Voltage	30mV <sub>max</sub>
Z <sub>ro</sub>	74+99j Ω
Z <sub>rs</sub>	70+87j Ω
Z <sub>so</sub>	105+270 Ω
Z <sub>ss</sub>	103+240j Ω
R1-R2 DC resistance	48 Ω ± 10% (@20°C)
Stator DC resistance	32 Ω ± 10% (@20°C)
Accuracy	±10'
Operating temp.	-50°C / +155°C

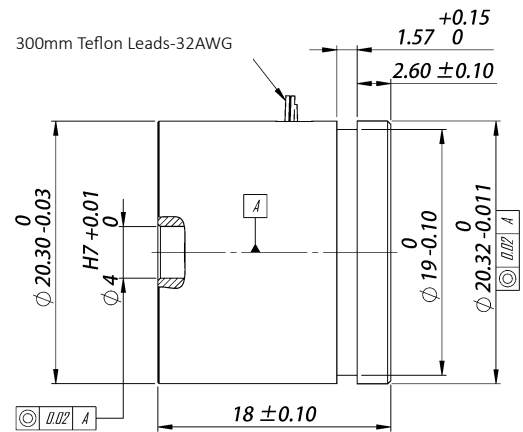
## MYM-08 Schematic and Technical Drawings



Input:  $E(R_1-R_2) = E \sin(\omega t)$

Output:  $E(S_1-S_3) = Tr \times E(R_1-R_2) \cos\theta$   
 $E(S_2-S_4) = Tr \times E(R_1-R_2) \sin\theta$

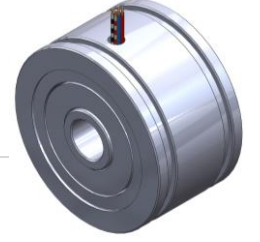
T<sub>r</sub>: Transformation ratio



# MYM-15 Technical Information

## Features

- Hollow shaft ID: 8 mm
- Outer diameter: 36.8 mm
- Length: 21.3 mm

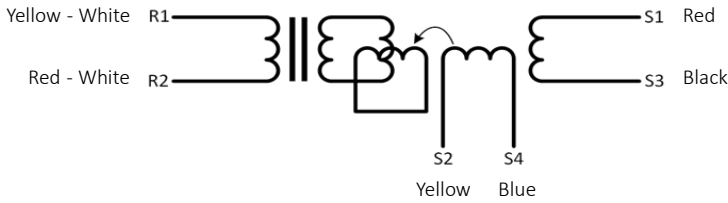


## MYM-15 Electrical Data

MDS.MYM-15

Primary Side	R <sub>1</sub> -R <sub>2</sub>
Pole pairs	1
Transformation ratio	0.5±10%
Input Voltage	5 V <sub>rms</sub>
Input Current	58 mA
Input frequency	4.5 kHz
Phase shift	-15° ± 2°
Null Voltage	30mV <sub>max</sub>
Z <sub>ro</sub>	55+80j Ω
Z <sub>rs</sub>	50+75j Ω
Z <sub>so</sub>	195+390jΩ
Z <sub>ss</sub>	190+360j Ω
R1-R2 DC resistance	42 Ω ± 10% (@20°C)
Stator DC resistance	76 Ω ± 10% (@20°C)
Accuracy	±10'
Operating temp.	-50°C / +155°C

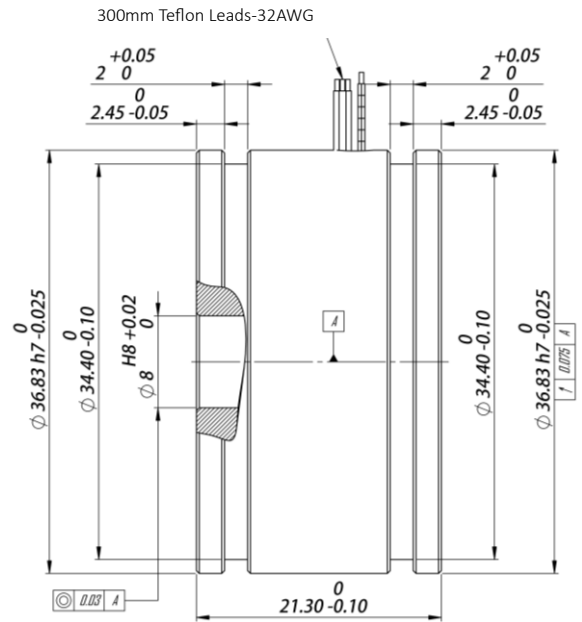
## MYM-15 Schematic and Technical Drawings



Input:  $E(R_1-R_2) = E \sin(\omega t)$

Output:  $E(S_1-S_3) = Tr \times E(R_1-R_2) \cos\theta$   
 $E(S_2-S_4) = Tr \times E(R_1-R_2) \sin\theta$

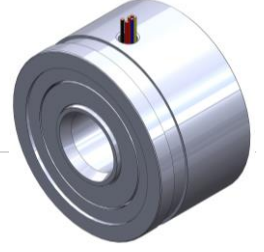
T<sub>r</sub>: Transformation ratio



# MYM-21 Technical Information

## Features

- Hollow shaft ID: 17 mm
- Outer diameter: 52.4 mm
- Length: 31.75 mm

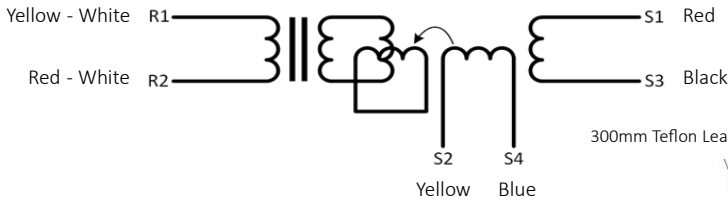


## MYM-21 Electrical Data

MDS.MYM-21

Primary Side	R <sub>1</sub> -R <sub>2</sub>
Pole pairs	1
Transformation ratio	0.5±10%
Input Voltage	4 Vrms
Input Current	26 mA
Input frequency	5 kHz
Phase shift	-8° ± 2°
Null Voltage	30mVmax
Z <sub>ro</sub>	70+160j Ω
Z <sub>rs</sub>	60+150j Ω
Z <sub>so</sub>	185+430j Ω
Z <sub>ss</sub>	160+400j Ω
R1-R2 DC resistance	22.8 Ω ± 10% (@20°C)
Stator DC resistance	63.1 Ω ± 10% (@20°C)
Accuracy	±10'
Operating temp.	-50°C / +155°C

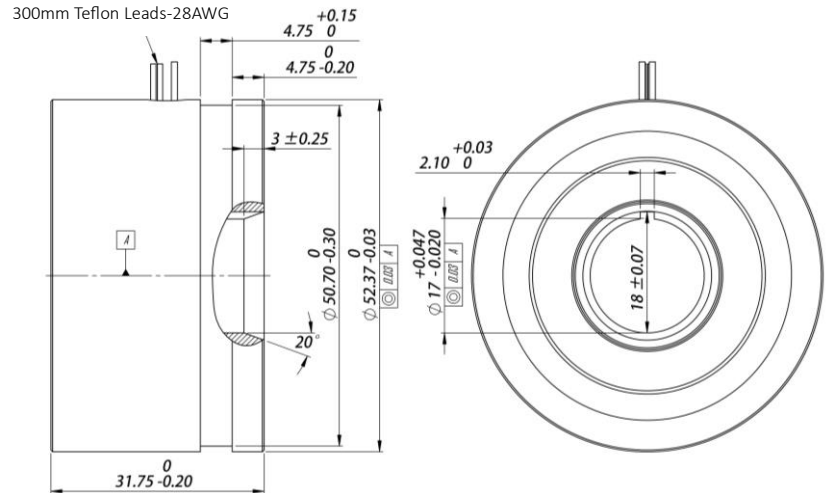
## MYM-21 Schematic and Technical Drawings



Input:  $E(R_1-R_2) = E \sin(\omega t)$

Output:  $E(S_1-S_3) = Tr \times E(R_1-R_2) \cos\theta$   
 $E(S_2-S_4) = Tr \times E(R_1-R_2) \sin\theta$

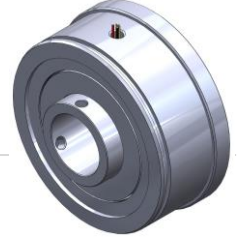
T<sub>r</sub>: Transformation ratio



# MYM-27 Technical Information

## Features

- Hollow shaft ID: 22 mm
- Outer diameter: 72 mm
- Length: 35.5 mm

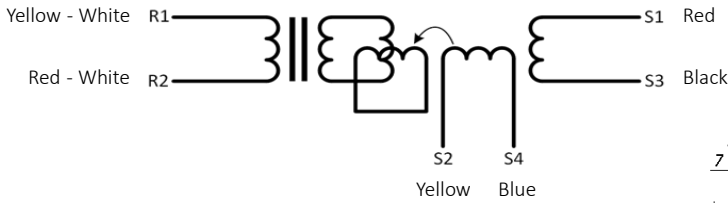


## MYM-27 Electrical Data

MDS.MYM-27

Primary Side	R <sub>1</sub> -R <sub>2</sub>
Pole pairs	1
Transformation ratio	0.5±10%
Input Voltage	5 Vrms
Input Current	20 mA
Input frequency	8 kHz
Phase shift	-6° ± 2°
Null Voltage	20mVmax
Z <sub>ro</sub>	95+255j Ω
Z <sub>rs</sub>	90+245j Ω
Z <sub>so</sub>	500+1600jΩ
Z <sub>ss</sub>	465+1560j Ω
R1-R2 DC resistance	45.5 Ω ± 10% (@20°C)
Stator DC resistance	55.0 Ω ± 10% (@20°C)
Accuracy	±8'
Operating temp.	-50°C / +155°C

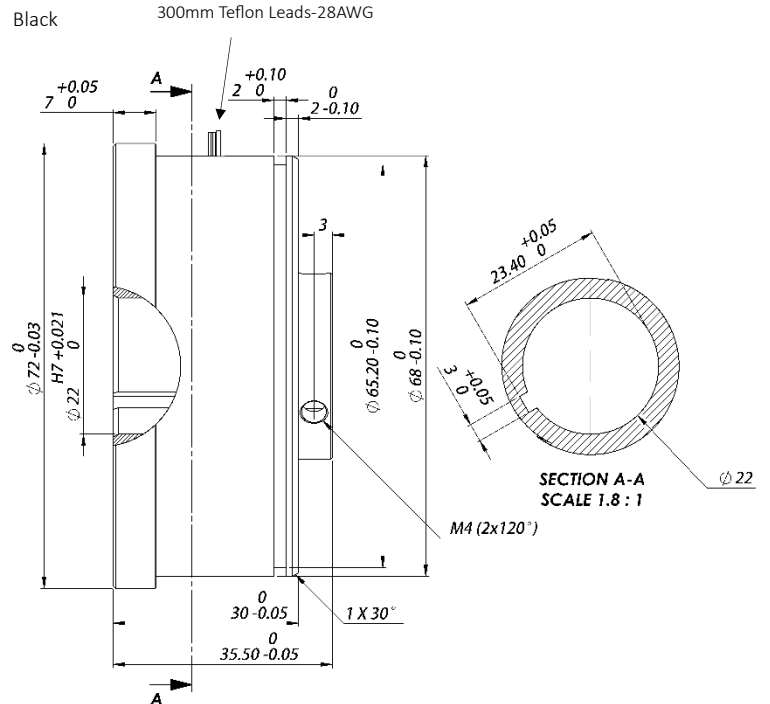
## MYM-27 Schematic and Technical Drawings



Input:  $E(R_1-R_2) = E \sin(\omega t)$

Output:  $E(S_1-S_3) = Tr \times E(R_1-R_2) \cos\theta$   
 $E(S_2-S_4) = Tr \times E(R_1-R_2) \sin\theta$

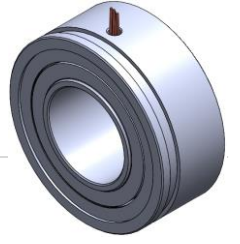
T<sub>r</sub>: Transformation ratio



# MYM-31 Technical Information

## Features

- Hollow shaft ID: 38 mm
- Outer diameter: 77.5 mm
- Length: 31.8 mm

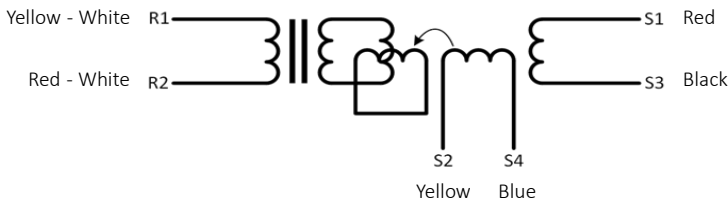


## MYM-31 Electrical Data

MDS.MYM-31

Primary Side	R <sub>1</sub> -R <sub>2</sub>
Pole pairs	1
Transformation ratio	0.5±10%
Input Voltage	5 Vrms
Input Current	36 mA
Input frequency	10 kHz
Phase shift	4° ± 2°
Null Voltage	20mVmax
Z <sub>ro</sub>	66+140j Ω
Z <sub>rs</sub>	62+132j Ω
Z <sub>so</sub>	230+620jΩ
Z <sub>ss</sub>	215+600j Ω
R1-R2 DC resistance	39.5 Ω ± 10% (@20°C)
Stator DC resistance	77.5 Ω ± 10% (@20°C)
Accuracy	±7'
Operating temp.	-50°C / +110°C

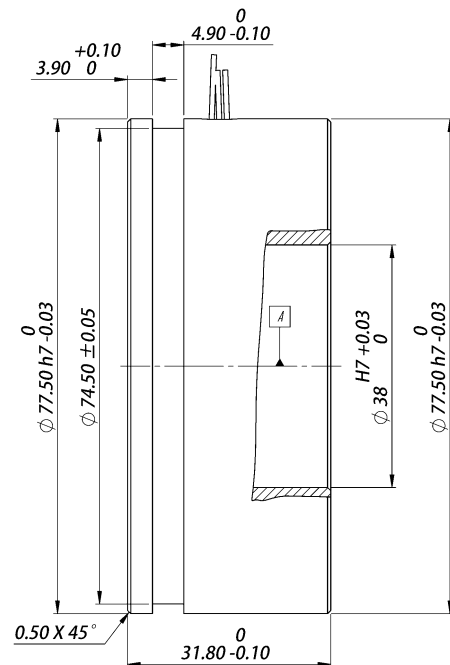
## MYM-31 Schematic and Technical Drawings



Input:  $E(R_1-R_2) = E \sin(\omega t)$

Output:  $E(S_1-S_3) = Tr \times E(R_1-R_2) \cos\theta$   
 $E(S_2-S_4) = Tr \times E(R_1-R_2) \sin\theta$

T<sub>r</sub>: Transformation ratio

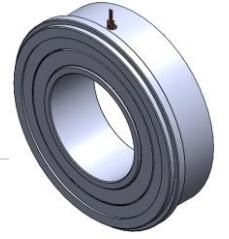




# MYM-43 Technical Information

## Features

- Hollow shaft ID: 56 mm
- Outer diameter: 110 mm
- Length: 30 mm

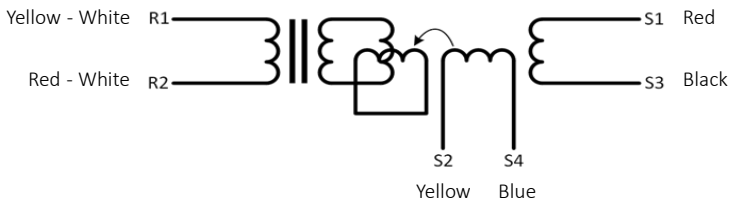


## MYM-43 Electrical Data

MDS.MYM-43

Primary Side	R <sub>1</sub> -R <sub>2</sub>
Pole pairs	4
Transformation ratio	0.5±10%
Input Voltage	5 Vrms
Input Current	32 mA
Input frequency	10 kHz
Phase shift	5° ± 2°
Null Voltage	15mVmax
Z <sub>ro</sub>	80+155j Ω
Z <sub>rs</sub>	75.5+151j Ω
Z <sub>so</sub>	450+1260j Ω
Z <sub>ss</sub>	430+1220j Ω
R1-R2 DC resistance	46.5 Ω ± 10% (@20°C)
Stator DC resistance	150.5 Ω ± 10% (@20°C)
Accuracy	±5'
Operating temp.	-50°C / +110°C

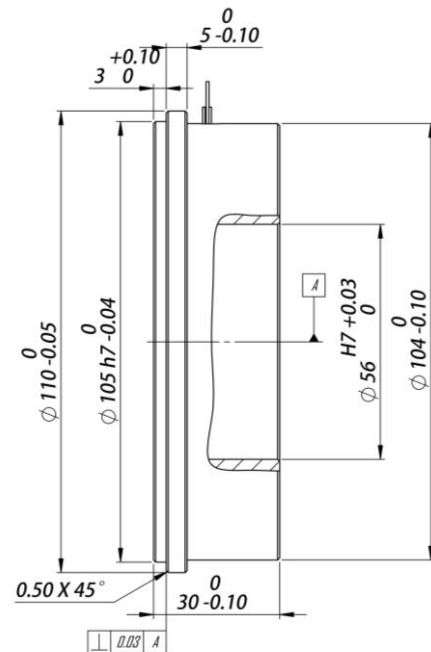
## MYM-43 Schematic and Technical Drawings



Input:  $E(R_1-R_2) = E \sin(\omega t)$

Output:  $E(S_1-S_3) = Tr \times E(R_1-R_2) \cos\theta$   
 $E(S_2-S_4) = Tr \times E(R_1-R_2) \sin\theta$

T<sub>r</sub>: Transformation ratio



# MYM-55 Technical Information

## Features

- Hollow shaft ID: 92.7 mm
- Outer diameter: 139.7 mm
- Length: 31.8 mm

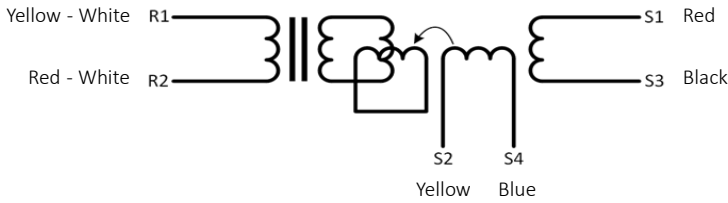


## MYM-55 Electrical Data

MDS.MYM-55

Primary Side	R <sub>1</sub> -R <sub>2</sub>
Pole pairs	8
Transformation ratio	0.5±10%
Input Voltage	5 Vrms
Input Current	33 mA
Input frequency	10 kHz
Phase shift	-4° ± 2°
Null Voltage	20mVmax
Zro	71+120j Ω
Zrs	68+115j Ω
Zso	490+1600jΩ
Zss	480+1550j Ω
R1-R2 DC resistance	48.6 Ω ± 10% (@20°C)
Stator DC resistance	222 Ω ± 10% (@20°C)
Accuracy	±5'
Operating temp.	-50°C / +110°C

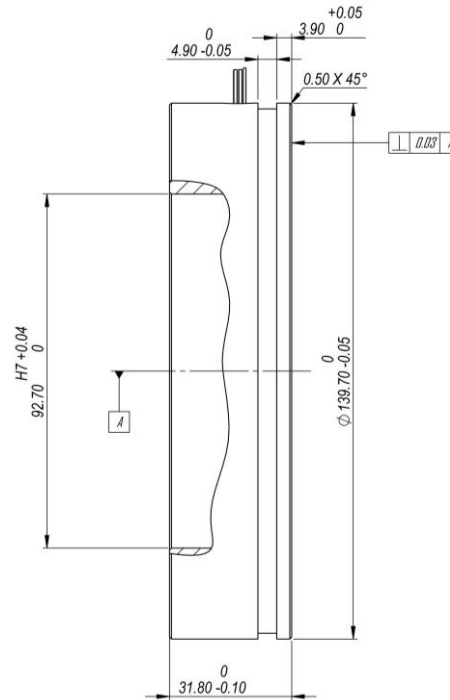
## MYM-55 Schematic and Technical Drawings



Input:  $E(R_1-R_2) = E \sin(\omega t)$

Output:  $E(S_1-S_3) = Tr \times E(R_1-R_2) \cos \theta$   
 $E(S_2-S_4) = Tr \times E(R_1-R_2) \sin \theta$

T<sub>r</sub>: Transformation ratio



# MYM-65 Technical Information

## Features

- Hollow shaft ID: 100 mm
- Outer diameter: 165 mm
- Length: 35 mm

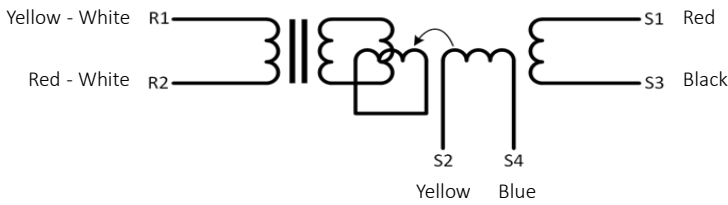


## MYM-65 Electrical Data

MDS.MYM-65

Primary Side	R <sub>1</sub> -R <sub>2</sub>
Pole pairs	8
Transformation ratio	0.47±10%
Input Voltage	5 V <sub>rms</sub>
Input Current	39 mA
Input frequency	10 kHz
Phase shift	-10° ± 2°
Null Voltage	20mV <sub>max</sub>
Z <sub>ro</sub>	41.7+132.6j Ω
Z <sub>rs</sub>	41+131.1j Ω
Z <sub>so</sub>	441+1970jΩ
Z <sub>ss</sub>	433+1940j Ω
R1-R2 DC resistance	22 Ω ± 10% (@20°C)
Stator DC resistance	225 Ω ± 10% (@20°C)
Accuracy	±5'
Operating temp.	-50°C / +110°C

## MYM-65 Schematic and Technical Drawings



Input:  $E(R_1-R_2) = E \sin(\omega t)$

Output:  $E(S_1-S_3) = Tr \times E(R_1-R_2) \cos\theta$   
 $E(S_2-S_4) = Tr \times E(R_1-R_2) \sin\theta$

T<sub>r</sub>: Transformation ratio

