

Torque sensor

## DRVZ

1800 Nm max. on 1 $\frac{3}{8}$ " shaft  
according to ISO 500-3:2014 Type 1

for drives with PTO shafts

angle of rotation measurement  
with 2x360 increments

**NEW!**



On request also available:

1800 Nm max. on 1 $\frac{3}{8}$ " shaft  
according to ISO 500-3:2014 Type 2

2500 Nm max. on 1 $\frac{3}{4}$ " shafts  
according to ISO 500-3:2014 Type 3

### Features DRVZ

- contactless signal transmission
- built-in measuring amplifier
- rotation angle measurement (optional)
- extended EMC strength
- adjustable output level of rpm and angle signal (5V-24V)
- Frequency output 10kHz  $\pm$ 5kHz
- large input voltage range (10-28,8V)
- strain gauge technology
- robust design for use in field applications
- IP67
- easy installation
- accurate results (0.2% accuracy)

The torque sensor DRVZ provides a precise measurement of torque and angle of rotation when testing systems that are driven by PTO shafts, such as a tractor gearbox.

The contactless transmission of supply voltage and measuring signal enables low-wear and largely maintenance-free continuous operation.

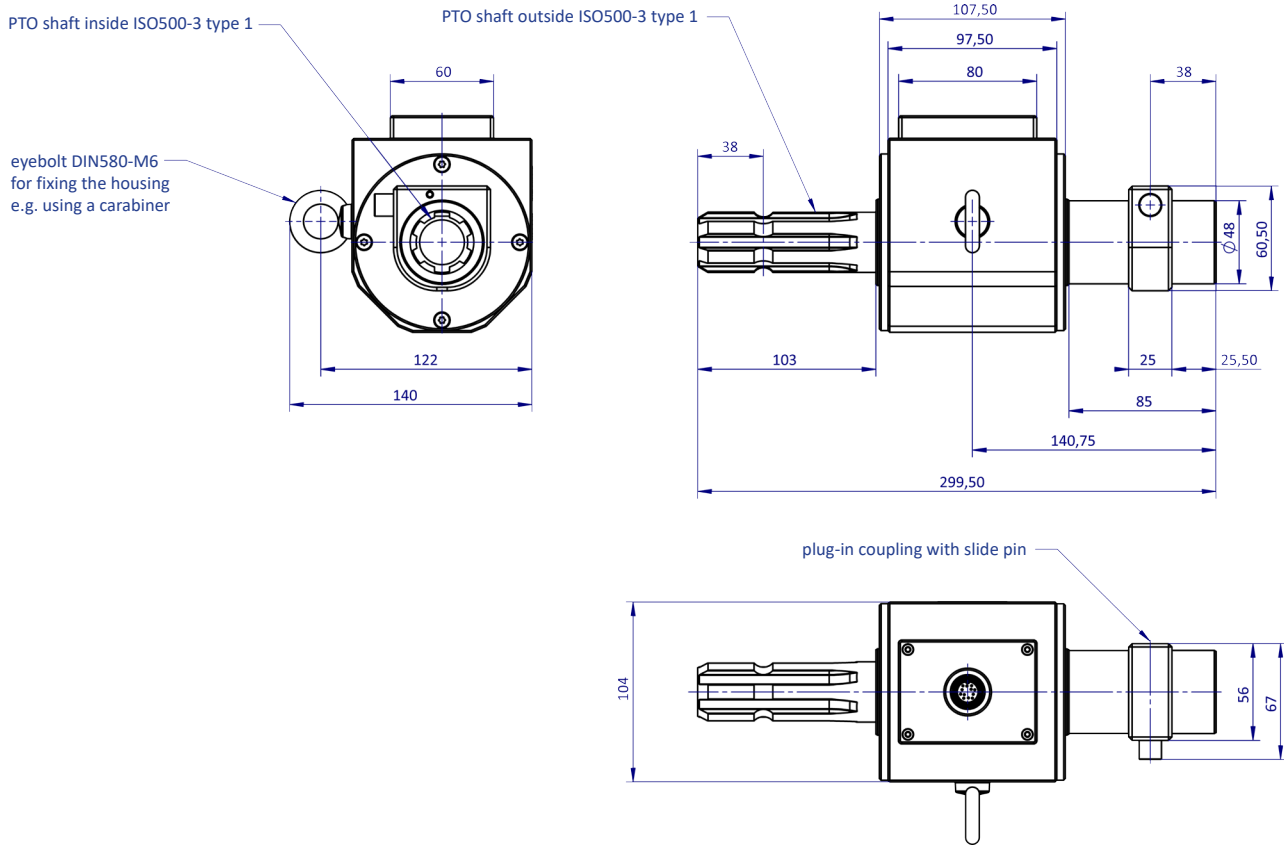
The integrated measuring amplifier provides an analog and galvanically isolated output signal of 0  $\pm$  10V or 10kHz  $\pm$ 5kHz with a supply voltage of 10 to 28.8V DC.

## Electrical specifications DRVZ

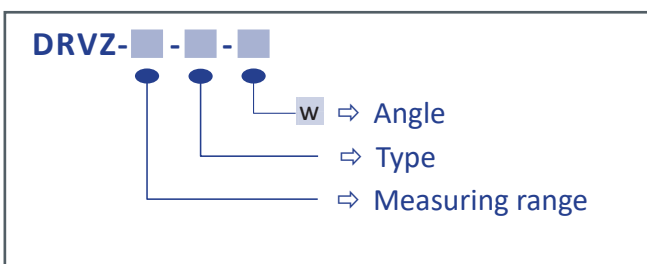
Supply voltage:	10 - 28,8 V DC		
Power consumption:	at Ub 12 V approx. 180 mA (switching converter 2.2 W)		
Rise time 10-90 %:	400 $\mu$ s		
Limit frequency -3 dB:	1 kHz		
	Voltage output:	Output frequency:	
Output signal:	0 $\pm$ 10 V	10 kHz $\pm$ 5 kHz	
Resolution:	16 bit $\pm$ 0,38 mV	16 bit $\pm$ 0,19 mHz	
Max. output range:	$\pm$ 11 V	$\pm$ 6,3 KHz	
Internal resistance:	100 $\Omega$	-	
Ripple:	< 100 mVpp	-	
Nonlinearity/ max. measurement error (of full scale)	0,2%	0,2%	
Error of Hysteresis:	0,1 %	0,1 %	
Deviation at zero point:	$\leq$ 50 mV	$\leq$ 50 Hz	
Operating temperature:	0 - 60 $^{\circ}$ C		
Compensated temperature range:	5 - 45 $^{\circ}$ C		
Temperature error			
Zero point:	0,05 % / K		
Sensitivity:	0,05 % / K		
Mechanical overload:	50 %		
Internal protection:	IP67		
Connection:	12pin-connector (circular connector series 680)		
<b>Interference emission</b>			
Basic standard	Frequency range		
EN55011    Limit class B	150 kHz - 6 GHz		
<b>Immunity to interference</b>			
Basic standard	Testing accuracy	coupling	Result
EN61000-4-2:2009 Electrostatic discharge (ESD)	4 kV	direct	A
EN61000-4-2:2009 Electrostatic discharge (ESD)	4 kV	indirect	A
EN61000-4-3:2009 Electromagnetic fields	10 V/m	indirect	A
EN61000-4-4:2009 Bursts	2 kV	indirect	A
EN61000-4-5:2005 Surge voltages	1 kV	direct	B
EN61000-4-6:2009 Conductor-borne RF disturbances	10 V/m	indirect	A
EN61000-4-8:2005 Power frequency magnetic fields	30 A/m	indirect	A
A: Deviation of outputs during the test < 0.3 % of full scale			
B: Deviation of outputs during the test > 0.3 % of full scale			

	Angle (w)
Output:	TTL or over voltage on pin 5 V < U < 24 V
Impedance:	22 $\Omega$
I <sub>max</sub> :	20 mA
Increments/rev.:	2 x 360
Resolution:	1 $^{\circ}$
Phase shift:	Channel A 90 $^{\circ}$ at right spin of propulsion side

## Mechanical specifications DRVZ



Measuring range:	0 - 1800 Nm
Max. RPM	max. 2000 min <sup>-1</sup>
Spring constant:	347 x 10 <sup>3</sup> Nm / rad
Mass moment of inertia:	7399 g x cm <sup>2</sup>
Permissible axial load*	1300 N
Permissible radial load*	5200 N
Weight:	6kg
<b>* The axial and radial load values apply to the non-fixed housing</b>	



### Available accessories

Supply and display unit: GMV2  
ValueMaster<sub>base</sub>

ETH Measuring cable: AK12.4 with IP67  
AK12.5 with IP67