Data sheet for three-phase Squirrel-Cage-Motors SIMOTICS

Motor type : 1AV3104D **SIMOTICS GP - 100 L - IM B3 - 8p**

Client order no.	Item-No.	Offer no.
Order no.	Consignment no.	Project
Remarks		

Electrical data

Safe Area

U [V]	Δ / Y	f [Hz]	P [kW]	P [hp]	I [A]	n [1/min]	M [Nm]	η 3) 4/4	η 3) 3/4	η 3) 2/4	cosφ 3) 4/4	cosφ 3) 3/4	cosφ 3) 2/4	I_A/I_N I_I/I_N	M_A/M_N T_I/T_N	M_K/M_N T_B/T_N	IE-CL
DOL duty (S1) - 155(F) to 130(B)																	
230	Δ	50	0.75	-/-	3.75	710	10.1	75.0	75.7	73.1	0.67	0.58	0.45	3.7	1.5	2.1	IE3
400	Y	50	0.75	-/-	2.10	710	10.1	75.0	75.7	73.1	0.67	0.58	0.45	3.7	1.5	2.1	IE3

IM B3 / IM 1001		FS 100 L		IP55	UKCA	IEC/EN 60034	IEC, DIN, ISO, VDE, EN		

Environmental conditions : -20 °C - +40 °C / 1000 m

Locked rotor time (hot / cold) : 49 s | 62.5 s

Mechanical data

Sound level (SPL / SWL) at 50Hz|60Hz	61.4 / 69.4 dB(A) 2) 3)	64 / 72 dB(A) 2) 3)	Vibration severity grade	A
Moment of inertia	0.0096 kg m²		Thermal class	F
Bearing DE | NDE	6206 2Z C3	6206 2Z C3	Duty type	S1
bearing lifetime			Direction of rotation	bidirectional
L_{10mh} $F_{Rad\ min}$ for coupling operation 50|60Hz 1)	40000 h	32000 h	Frame material	aluminum
Regreasing device	Without		Net weight of the motor (IM B3)	20 kg
Grease nipple	-/-		Coating (paint finish)	Standard paint finish C2
Type of bearing	Preloaded bearing DE		Color, paint shade	RAL7030
Condensate drainage holes	Without		Motor protection	(A) without (Standard)
External earthing terminal	Without		Method of cooling	IC411 - self ventilated, surface cooled

Terminal box

Terminal box position	top	Max. cross-sectional area	4 mm²
Material of terminal box	Aluminium	Cable diameter from ... to ...	11 mm - 21 mm
Type of terminal box	TB1 F00	Cable entry	2xM32x1,5
Contact screw thread	M4	Cable gland	2 plugs

Notes:

I_A/I_N = locked rotor current / current nominal
M_A/M_N = locked rotor torque / torque nominal
M_K/M_N = break down torque / nominal torque

1) L10mh according to DIN ISO 281 10/2010
2) at rated power / at full load
3) Value is valid only for DOL operation with motor design IC411

responsible dep.	technical reference	created by	approved by	*Technical data are subject to change! There may be discrepancies between calculated and rating plate values.*	Link documents
DI MC LVM		DT Configurator			

SIEMENS

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datasheet	released
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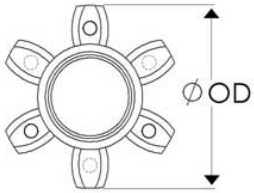
JD36/57-92Y

Ruland JD36/57-92Y, Jaw Coupling Spider, 92 Shore A Yellow, 2.250" (57.2mm) OD, Balance of Torque & Dampening



Description

Ruland JD36/57-92Y is a zero-backlash jaw coupling spider designed to fit Ruland hubs that have an. It is a component in a three-piece design consisiting of two aluminum hubs and an elastomeric insert called the spider creating a lightweight low inertia coupling capable of speeds up to 8,000 RPM. This three-piece design allows for a highly customizable coupling that easily combines clamp or set screw hubs with inch, metric, keyed, and keyless bores. JD36/57-92Y is made from polyurethane and has 85 Shore A hardness allowing for a good balance of dampening and torque capacity. Ruland jaw couplings have a balanced design for reduced vibration at high speeds. Hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. JD36/57-92Y is RoHS3 and REACH compliant.

Product Specifications

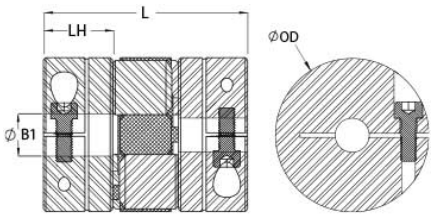
Outer Diameter (OD)	2.250 in (57.2 mm)	**Rated Torque**	285 in-lb (32.21 Nm)
Angular Misalignment	0.9°	**Peak Torque**	570 in-lb (64.6 Nm)
Parallel Misalignment	0.005 in (0.13 mm)	**Torsional Stiffness**	250.0 lb-in/Deg (28.57 Nm/Deg)
Moment of Inertia	0.03690 lb-in^2 (1.080 X 10^{-5} kg-m^2)	**Axial Motion**	0.050 in (1.27 mm)
Maximum Speed	8,000 RPM	**Full Bearing Support Required?**	Yes
Zero-Backlash?	Yes	**Weight (lbs)**	0.063700
Temperature	-10°F to 180°F (-23°C to 82°C)	**Material Specification**	Polyurethane 92 Shore A YELLOW
Finish Specification	Plain	**Manufacturer**	Ruland Manufacturing
UPC	634529068991	**Country of Origin**	USA
Tariff Code	8483.60.8000	**UNSPC**	31163011
Recommended Gap Between Hubs	0.050 in (1.25 mm)		
Note 1	Performance ratings are for guidance only. The user must determine suitability for a particular application.		
Note 2	Torque ratings for the couplings are based on the physical limitations/failure point of the spiders. Under normal/typical conditions the hubs are capable of holding up to the nominal torque of the spiders. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the nominal torque of the spiders. Keyways are available to provide additional torque capacity in the shaft/hub connection when required. Please consult technical support for more assistance.		
Prop 65	This product does not require a warning.		

Installation Instructions

1. Align the bores of the jaw coupling hubs on the shafts that are to be joined and determine if the misalignment parameters are within the limits of the coupling.(*Angular Misialignment:* 0.9 deg, *Parallel Misalignment*: 0.005 in (0.13 mm), *Axial Motion*: 0.05 in (1.27 mm))
2. Fully tighten the screw(s) on the first hub to the recommended seating torque using a hex torque wrench.
3. Insert a spider into the jaws of the first hub until the raised points contact the base of the hub.
4. Insert the jaws of the second hub into the spider openings until the raised points contact the base of the second hub. Some force will be required to insert the second hub. This is normal.
5. Assure that a gap is maintained between the two hubs so there is no metal to metal contact. Fully tighten the screw(s) on the second hub to the recommended seating torque.

MJC57-18-A

Ruland MJC57-18-A, 18mm Jaw Coupling Hub, Aluminum, Clamp Style, 57.2mm OD, 28.7mm Length



Description

Ruland MJC57-18-A is a clamp zero-backlash jaw coupling hub with a 18mm bore, 57.2mm OD, and 28.7mm length. It is a component in a three-piece design consisiting of two aluminum hubs and an elastomeric insert called the spider creating a lightweight low inertia coupling capable of speeds up to 8,000 RPM. This three-piece design allows for a highly customizable coupling that easily combines clamp or set screw hubs with inch, metric, keyed, and keyless bores. Spiders are available in three durometers allowing the user to tailor coupling performance to their application. Ruland jaw couplings have a balanced design for reduced vibration at high speeds. Hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. MJC57-18-A is machined from bar stock that is sourced exclusively from North American mills and is RoHS3 and REACH compliant. It is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

Bore (B1)	18 mm	**B1 Max Shaft Penetration**	28.7 mm
Outer Diameter (OD)	2.250 in (57.2 mm)	**Bore Tolerance**	+0.03 mm / -0.00 mm
Hub Width (LH)	28.7 mm	**Length (L)**	3.150 in (80.0 mm)
Recommended Shaft Tolerance	+0.000 mm / -0.013 mm	**Forged Clamp Screw**	M6
Number of Screws	1 ea	**Screw Material**	Alloy Steel
Screw Finish	Black Oxide	**Hex Wrench Size**	5.0 mm
Seating Torque	16 Nm	**Torque Specifications**	Torque ratings vary with insert selection
Misalignment	Misalignment ratings vary with insert selection	**Maximum Speed**	8,000 RPM
Moment of Inertia	9.331 x 10^{-5} kg-m^2	**Full Bearing Support Required?**	Yes
Recommended Inserts	JD36/57-98R, JD36/57-92Y	**Zero-Backlash?**	Yes
Balanced Design	Yes	**Fail Safe?**	Yes
Weight (lbs)	0.441500	**Temperature**	-10°F to 180°F (-23°C to 82°C)
Material Specification	2024-T351 Aluminum Bar	**Finish**	Bright
Finish Specification	Bright, No Plating	**Manufacturer**	Ruland Manufacturing
Recommended Gap Between Hubs	0.050 in (1.25 mm)	**Country of Origin**	USA
UPC	634529067932	**UNSPC**	31163011
Tariff Code	8483.60.8000		
Note 1	Stainless steel hubs are available upon request.		
Note 2	Performance ratings are for guidance only. The user must determine suitability for a particular application.		
Note 3	Torque ratings for the couplings are based on the physical limitations/failure point of the spiders. Under normal/typical conditions the hubs are capable of holding up to the nominal torque of the spiders. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the nominal torque of the spiders. Keyways are available to provide additional torque capacity in the shaft/hub connection when required. Please consult technical support for more assistance.		
Prop 65	⚠**WARNING** This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.		

Installation Instructions

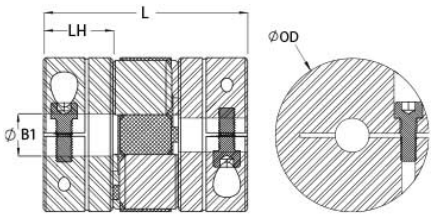
1. Align the bores of the MJC57-18-A jaw coupling hubs on the shafts that are to be joined and

determine if the misalignment parameters are within the limits of the coupling. (See spider for misalignment parameters.)

2. Fully tighten the M6 screw(s) on the first hub to the recommended seating torque of 16 Nm using a 5.0 mm hex torque wrench.
3. Insert a spider into the jaws of one hub until the raised points contact the base of the hub.
4. Insert the jaws of the second hub into the spider openings until the raised points contact the base of the second hub. Some force will be required to insert the second hub. This is normal.
5. Assure that a gap is maintained between the two hubs so there is no metal to metal contact. Fully tighten the screw(s) on the second hub to the recommended seating torque.

MJC57-22-A

Ruland MJC57-22-A, 22mm Jaw Coupling Hub, Aluminum, Clamp Style, 57.2mm OD, 28.7mm Length



Description

Ruland MJC57-22-A is a clamp zero-backlash jaw coupling hub with a 22mm bore, 57.2mm OD, and 28.7mm length. It is a component in a three-piece design consisiting of two aluminum hubs and an elastomeric insert called the spider creating a lightweight low inertia coupling capable of speeds up to 8,000 RPM. This three-piece design allows for a highly customizable coupling that easily combines clamp or set screw hubs with inch, metric, keyed, and keyless bores. Spiders are available in three durometers allowing the user to tailor coupling performance to their application. Ruland jaw couplings have a balanced design for reduced vibration at high speeds. Hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. MJC57-22-A is machined from bar stock that is sourced exclusively from North American mills and is RoHS3 and REACH compliant. It is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

Bore (B1)	22 mm	**B1 Max Shaft Penetration**	28.7 mm
Outer Diameter (OD)	2.250 in (57.2 mm)	**Bore Tolerance**	+0.03 mm / -0.00 mm
Hub Width (LH)	28.7 mm	**Length (L)**	3.150 in (80.0 mm)
Recommended Shaft Tolerance	+0.000 mm / -0.013 mm	**Forged Clamp Screw**	M6
Number of Screws	1 ea	**Screw Material**	Alloy Steel
Screw Finish	Black Oxide	**Hex Wrench Size**	5.0 mm
Seating Torque	16 Nm	**Torque Specifications**	Torque ratings vary with insert selection
Misalignment	Misalignment ratings vary with insert selection	**Maximum Speed**	8,000 RPM
Moment of Inertia	9.237 x 10^{-5} kg-m^2	**Full Bearing Support Required?**	Yes
Recommended Inserts	JD36/57-98R, JD36/57-92Y	**Zero-Backlash?**	Yes
Balanced Design	Yes	**Fail Safe?**	Yes
Weight (lbs)	0.420900	**Temperature**	-10°F to 180°F (-23°C to 82°C)
Material Specification	2024-T351 Aluminum Bar	**Finish**	Bright
Finish Specification	Bright, No Plating	**Manufacturer**	Ruland Manufacturing
Recommended Gap Between Hubs	0.050 in (1.25 mm)	**Country of Origin**	USA
UPC	634529099759	**UNSPC**	31163011
Tariff Code	8483.60.8000		
Note 1	Stainless steel hubs are available upon request.		
Note 2	Performance ratings are for guidance only. The user must determine suitability for a particular application.		
Note 3	Torque ratings for the couplings are based on the physical limitations/failure point of the spiders. Under normal/typical conditions the hubs are capable of holding up to the nominal torque of the spiders. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the nominal torque of the spiders. Keyways are available to provide additional torque capacity in the shaft/hub connection when required. Please consult technical support for more assistance.		
Prop 65	⚠**WARNING** This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.		

Installation Instructions

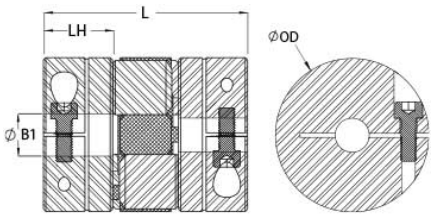
1. Align the bores of the MJC57-22-A jaw coupling hubs on the shafts that are to be joined and

determine if the misalignment parameters are within the limits of the coupling. (See spider for misalignment parameters.)

2. Fully tighten the M6 screw(s) on the first hub to the recommended seating torque of 16 Nm using a 5.0 mm hex torque wrench.
3. Insert a spider into the jaws of one hub until the raised points contact the base of the hub.
4. Insert the jaws of the second hub into the spider openings until the raised points contact the base of the second hub. Some force will be required to insert the second hub. This is normal.
5. Assure that a gap is maintained between the two hubs so there is no metal to metal contact. Fully tighten the screw(s) on the second hub to the recommended seating torque.

MJC57-28-A

Ruland MJC57-28-A, 28mm Jaw Coupling Hub, Aluminum, Clamp Style, 57.2mm OD, 28.7mm Length



Description

Ruland MJC57-28-A is a clamp zero-backlash jaw coupling hub with a 28mm bore, 57.2mm OD, and 28.7mm length. It is a component in a three-piece design consisiting of two aluminum hubs and an elastomeric insert called the spider creating a lightweight low inertia coupling capable of speeds up to 8,000 RPM. This three-piece design allows for a highly customizable coupling that easily combines clamp or set screw hubs with inch, metric, keyed, and keyless bores. Spiders are available in three durometers allowing the user to tailor coupling performance to their application. Ruland jaw couplings have a balanced design for reduced vibration at high speeds. Hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. MJC57-28-A is machined from bar stock that is sourced exclusively from North American mills and is RoHS3 and REACH compliant. It is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

Bore (B1)	28 mm	**B1 Max Shaft Penetration**	28.7 mm
Outer Diameter (OD)	2.250 in (57.2 mm)	**Bore Tolerance**	+0.03 mm / -0.00 mm
Hub Width (LH)	28.7 mm	**Length (L)**	3.150 in (80.0 mm)
Recommended Shaft Tolerance	+0.000 mm / -0.013 mm	**Forged Clamp Screw**	M6
Number of Screws	1 ea	**Screw Material**	Alloy Steel
Screw Finish	Black Oxide	**Hex Wrench Size**	5.0 mm
Seating Torque	16 Nm	**Torque Specifications**	Torque ratings vary with insert selection
Misalignment	Misalignment ratings vary with insert selection	**Maximum Speed**	8,000 RPM
Moment of Inertia	8.957 x 10^{-5} kg-m^2	**Full Bearing Support Required?**	Yes
Recommended Inserts	JD36/57-98R, JD36/57-92Y	**Zero-Backlash?**	Yes
Balanced Design	Yes	**Fail Safe?**	Yes
Weight (lbs)	0.382000	**Temperature**	-10°F to 180°F (-23°C to 82°C)
Material Specification	2024-T351 Aluminum Bar	**Finish**	Bright
Finish Specification	Bright, No Plating	**Manufacturer**	Ruland Manufacturing
Recommended Gap Between Hubs	0.050 in (1.25 mm)	**Country of Origin**	USA
UPC	634529099179	**UNSPC**	31163011
Tariff Code	8483.60.8000		
Note 1	Stainless steel hubs are available upon request.		
Note 2	Performance ratings are for guidance only. The user must determine suitability for a particular application.		
Note 3	Torque ratings for the couplings are based on the physical limitations/failure point of the spiders. Under normal/typical conditions the hubs are capable of holding up to the nominal torque of the spiders. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the nominal torque of the spiders. Keyways are available to provide additional torque capacity in the shaft/hub connection when required. Please consult technical support for more assistance.		
Prop 65	⚠**WARNING** This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.		

Installation Instructions

1. Align the bores of the MJC57-28-A jaw coupling hubs on the shafts that are to be joined and

determine if the misalignment parameters are within the limits of the coupling. (See spider for misalignment parameters.)

2. Fully tighten the M6 screw(s) on the first hub to the recommended seating torque of 16 Nm using a 5.0 mm hex torque wrench.
3. Insert a spider into the jaws of one hub until the raised points contact the base of the hub.
4. Insert the jaws of the second hub into the spider openings until the raised points contact the base of the second hub. Some force will be required to insert the second hub. This is normal.
5. Assure that a gap is maintained between the two hubs so there is no metal to metal contact. Fully tighten the screw(s) on the second hub to the recommended seating torque.

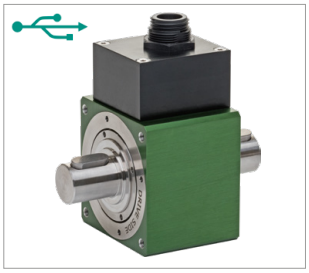
Delivery: ex stock | Warranty: 24 months

Precision Torque Sensor
rotating, contactless

MODEL **8656**

Highlight:
Very short design

Small measuring range



Large measuring range

Highlights
- Measurement ranges of 0 ... 1 N·m to 0 ... 100 N·m
- Very short design
- Output signal 0 ... ±10 V

Options
- Speed and angle measurement with resolution of up to 400 increments
- USB port including software

Applications
- End-of-line test benches
- Research & development
- Machinery and plant engineering
- Electric motor test
- Suitable for use in all types of test bench

Product description
The very short torque sensor model 8656 is contactless constructed. The torque is recorded by the torsion of the shaft using the strain gauge principle. Thanks to the inductive and optical transmission of the signals, the sensor is maintenance-free, the signals are digitized directly on the shaft and made available by the evaluation electronics as a voltage signal or via USB. Thanks to the high-quality, up to 10,000 rpm is possible. The direction of rotation can be seen from the potential of the output voltage, clockwise rotation corresponds to positive output voltage, counterclockwise rotation the voltage level is negative.

The shaft is equipped with keyways in every measuring range, matching keys are included. If a key connection is not required, the key can be omitted. The torque is matched with suitable couplings, we recommend model 8690, safely transmitted.

To record the speed and angle of rotation, the sensor can optionally be equipped with an incremental disc with 400 increments. This speed / angle signal is available as a TTL output signal.

The free DigiVision software is available in connection with USB, alternatively drivers for LabVIEW and DASYLab are ready for download.

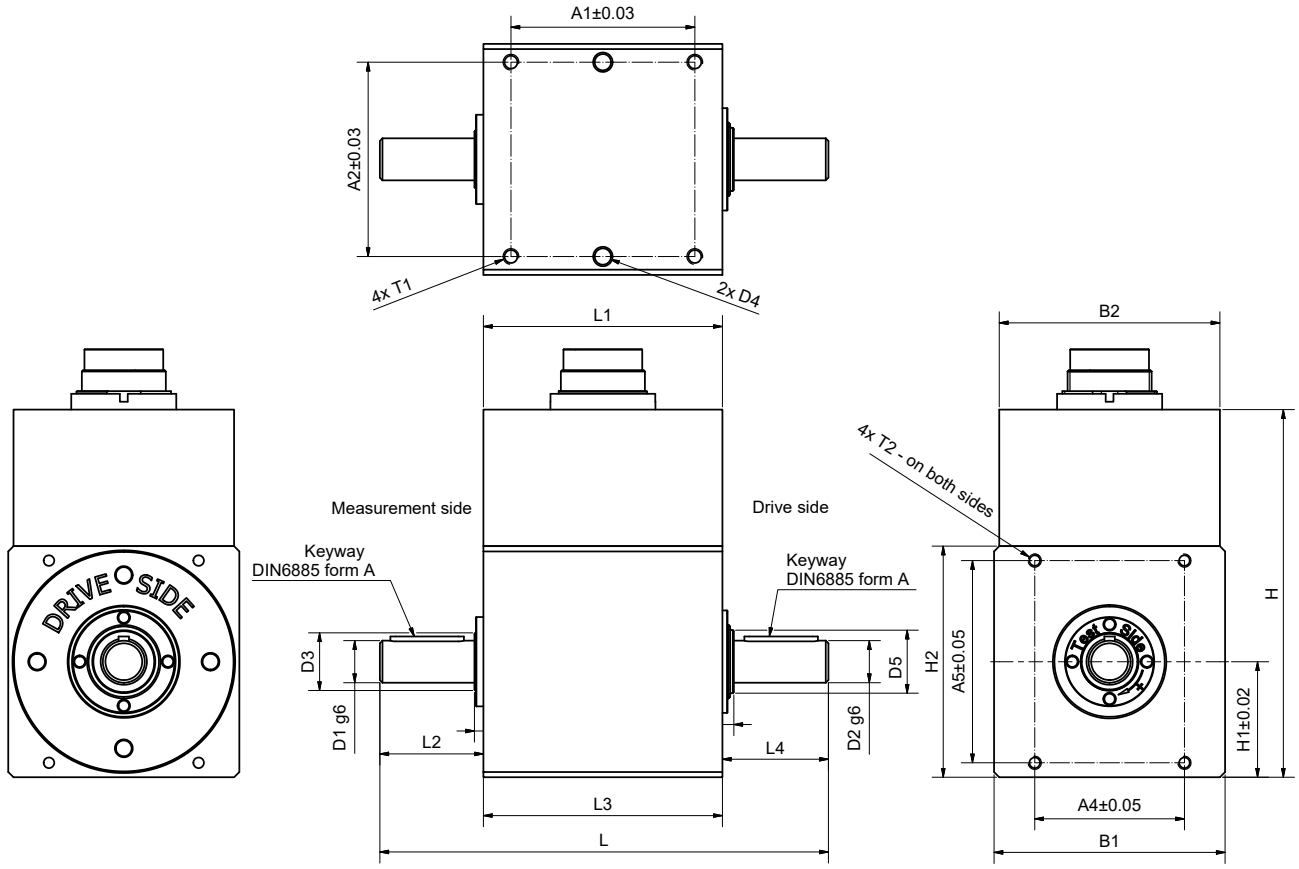
Connection cables in various lengths, metal bellows couplings and mounting brackets are available for integration in customer-specific systems.

Technical Data

8656	–	5001	5002	5005	5010	5020	5050	5100
Measuring range calibrated in N·m from 0 ...		±1 N·m	±2 N·m	±5 N·m	±10 N·m	±20 N·m	±50 N·m	±100 N·m
Accuracy								
Relative non-linearity		0.2 % F.S.						
Relative hysteresis		0.15 % F.S.						
Tolerance of sensitivity		0.25 % F.S.						
Electrical values								
Rated supply voltage range		10 ... 30 V DC (or 5 V via USB)						
DC power consumption		approx. 2 W						
Output voltage at ± rated torque		±10 V						
Output resistance		330 Ω						
Insulation resistance		> 5 MΩ						
Update rate		400/sec.						
Ripple		< 50 mV_{ss}						
Control signal		10.00 V DC						
Environmental conditions								
Range of operating and nominal temperature		0 °C ... +60 °C						
Sensitivity of temperature effects		on the zero point 0.015 % F.S./K on the sensitivity 0.015 % F.S./K						
Mechanical values								
Dynamic overload safe		recommended 70 % of nominal torque						
Max. operation torque		150 % of nominal torque						
Breakaway torque		300 % of nominal torque						
Alternating load		70 % of nominal torque						
Maximum limit axial load	[N]	70				150		165
Maximum limit radial load	[N]	5	10	13	20	25	30	50
Spring constant	[N·m/rad]	330		1000		7500		18000
Mass moment of inertia measuring side	[10^{-6} kg*m^2]	4				8		22
Mass moment of inertia drive side	[10^{-6} kg*m^2]	1				8.5		25
Max. rotary speed	[min^{-1}]	10000						
Other								
Material		Housing: made of anodized aluminium; Shaft: steel shell 1.4542						
Protection class		acc. EN 60529, IP40						
Weight	[g]	310				485		710
Installation								
Installation instructions		Do not exceed the permitted axial and radial forces during fitting and operation. Please refer to our operating instructions for detailed information www.burster.com. Suitable couplings should be used to avoid strain resulting from parallel or angular offset between the shafts.						

3057-008625EN-5699-081528

Dimensional drawing



Keyway:

Measuring range*	Form A
1 ... 10 N·m	2 x 2 x 14
20 ... 50 N·m	5 x 5 x 16
100 N·m	6 x 6 x 18

For detailed dimensions you can find sensor CAD data on our website www.burster.com.

8656	–	5001	5002	5005	5010	5020	5050	5100
Measuring range from 0 ...		±1 N·m	±2 N·m	±5 N·m	±10 N·m	±20 N·m	±50 N·m	±100 N·m
Geometry								
A1	[mm]	35						33.5
A2	[mm]	37				36		41
A4	[mm]	28.5				44		50
A5	[mm]	38.5				41		48
B1	[mm]	44				50		59
B2	[mm]	42						
D1 / D2	[mm]	8g6				15g6		18g6
D3	[mm]	11				16		24
D4 Ø / deep	[mm]	Ø 3.1 / 6						
H1	[mm]	22				25		29.5
H2	[mm]	44				50		59
L	[mm]	85.4				90.1		95.5
L2	[mm]	19.7				21.5		24
L3	[mm]	45.5				47.5		
L4	[mm]	20.2				21.1		24
T1 / deep	[mm]	M3 / 7				M4 / 7		
T2 / deep	[mm]	M2.5 / 8				M3 / 8		M4 /8

Electrical values

12-pin connector or mini USB with screw connection for configuration / measurement (option, USB connection cable included)

Wiring Code depends on the options selected		
Pin	Assignment	Cable colour (99540-000F-052XXXX)
A	NC	
B	Angular exit B	violet
C	Moment output +	yellow
D	Moment output -	green
E	Supply -	blue
F	Supply +	red
G	Angular exit A	pink
H	NC	
J	Ground angle output	black
K	Control signal	White
L	-	-
M	NC	

Accessories

Mounting block model 8600-Z02X

The mounting block has a central hole and special design allowing a range of options for reliable cable attachment. Two clips ensure the sensor is fixed securely.

For further information please see accessories data sheet 8600-Z02X

Metal bellow couplings

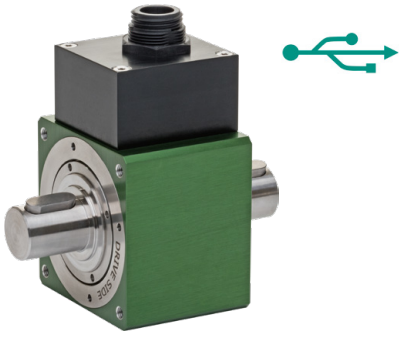
Couplings are necessary for correct installation. We recommend torsionally free metal bellows couplings to achieve an optimum compensation of misalignment.

The couplings are characterized by their excellent torsional stiffness during torque load and their low restoring forces. The couplings are optionally available with feather keys.

For further information please see accessories data sheet 8690.

Options

Integrated amplifier with USB interface



This sensor version has an USB connection instead of the ±10 V output. The sensor is powered via USB, no further connections required.

In addition to torque, the speed or rotation angle measured values are optionally available at the output. The mechanical performance calculated in the sensor is also displayed via the DigiVision software.

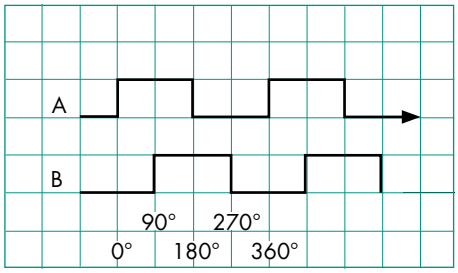
Free drivers are available for integration into LabVIEW and DASYlab, also a DLL for integration into your own programs.

3057-008625EN-5699-081528

Torque sensor with integrated rotational speed / angular displacement measurement

8656 torque sensors are optionally available with integrated rotational speed and angular displacement measurement. Two pulse channels with TTL level – channel A and channel B – are always available. For clockwise rotation (looking at the test side), channel A leads channel B with a phase shift of 90°. Only one pulse channel is needed for speed measurement.

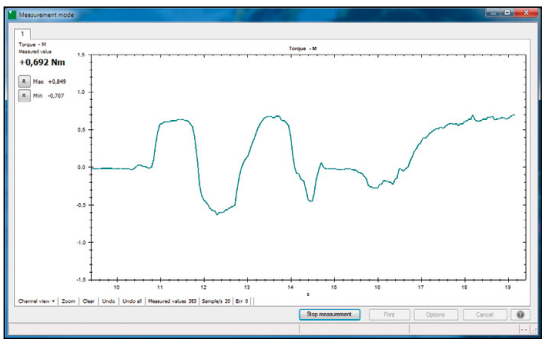
For angular displacement measurement (or direction detection), both channels need to be evaluated. To achieve the maximum angular resolution, four-edge decoding must be used to read both the rising and falling edges, so an angular resolution of 0.255 ° is possible.



DigiVision configuration and analysis software

Features

- Can be used to actuate tare function
- Configuration options for averaging and filters
- Intuitive user interface
- Automatic sensor identification
- Sensor calibration data readout



DigiVision Light PC software		
freely available on our website		DigiVision configuration and analysis software max. 200 measured value/s for one sensor
DigiVision Standard PC software		
Model 8656-P100		DigiVison configuration and analysis software up to 16 channels
PC-Software DigiVision Professional		
Model 8656-P200		DigiVision configuration and analysis software with additional configurable maths channel; up to 32 channels

USB measurement option

- Numerical & graphical display and measurement of the physical torque value
- Practical start and stop trigger functions
- 4 limits can be configured for each measurement channel
- MIN/MAX value acquisition
- Automatic scaling
- Measurement reports can be saved as Excel or PDF file
- Archive viewer for displaying sets of curves
- X Multichannel measurements, even with different sensors (e.g. 9206, 8631, 8625, 8661) available with standard version

Accessories

Order code		
9940		Mating connection 12 pin (scope of delivery)
9900-V539		Mating connection 90°-angle
99540-000F-0520030		Connecting cable, length 3 m, other end free
99539-000F-0520030		Connecting cable, length 3 m, plug with 90°-angle, other end free
99209-540G-0160030		Connecting cable for model 7281 and model 9311, length 3 m, with external supply
99163-540A-0150030		Connecting cable, length 3 m, 8656 to DIGIFORCE® 9307combined cannel D (option channel)
99209-215A-0090004		Adapter cable to DIGIFORCE® 9307 standard channel A/B and C (usable only in connection with type 99163-540A-015xxxx)
		DigiVision Light configuration and analysis software, max. 200 measured value/s for one sensor (freely available on our website)
9900-K349		USB cable, length 2 m (included with the USB version)
8656-P100		DigiVision Standard configuration and analysis software; up to 16 channels
8656-P200		DigiVision Professional with additional configurable maths channel; up to 32 channels
8600-Z02X		Mounting block, see accessories data sheet 8656-Z02X

Calibration

Manufacturer Calibration Certificate (WKS)		
		Special calibration for clockwise or/and counter clockwise direction torque, in 20 % steps of range up and down.
DAkkS Calibration Certificate		
		DAkkS calibration certificate per DIN 51309, clockwise or/and counter clockwise torque, with eight steps spaced across the measurement range, increasing and decreasing.

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Order Code

Measuring Range	Code
0 ... ±1 N·m	5 0 0 1
0 ... ±2 N·m	5 0 0 2
0 ... ±5 N·m	5 0 0 5
0 ... ±10 N·m	5 0 1 0
0 ... ±20 N·m	5 0 2 0
0 ... ±50 N·m	5 0 5 0
0 ... ±100 N·m	5 1 0 0

												Standard				
												0	0	0	2	0
8	**6**	**5**	**6**	**-**					**-**	**V**	**0**			**2**	**0**

■ Without angle/speed measurement	0
■ Speed/angle measurement 400 increments	1

Output signals	
■ Output voltage 0 ... ±10 V	0
■ USB interface	1

■ Rounded shaft ends with keyway	2

Data sheet for three-phase Squirrel-Cage-Motors SIMOTICS

Motor type : 1AV3104C **SIMOTICS GP - 100 L - IM B3 - 6p**

Client order no.	Item-No.	Offer no.
Order no.	Consignment no.	Project
Remarks		

Electrical data

Safe Area

U [V]	Δ / Y	f [Hz]	P [kW]	P [hp]	I [A]	n [1/min]	M [Nm]	η 3) 4/4	η 3) 3/4	η 3) 2/4	cosφ 3) 4/4	cosφ 3) 3/4	cosφ 3) 2/4	I_A/I_N I_I/I_N	M_A/M_N T_I/T_N	M_K/M_N T_B/T_N	IE-CL
DOL duty (S1) - 155(F) to 130(B)																	
230	Δ	50	1.50	-/-	6.30	970	14.8	82.5	83.1	81.5	0.73	0.65	0.52	5.2	1.9	2.8	IE3
400	Y	50	1.50	-/-	3.60	970	14.8	82.5	83.1	81.5	0.73	0.65	0.52	5.2	1.9	2.8	IE3

IM B3 / IM 1001		FS 100 L		IP55	UKCA	IEC/EN 60034	IEC, DIN, ISO, VDE, EN		

Environmental conditions : -20 °C - +40 °C / 1000 m

Locked rotor time (hot / cold) : 26.6 s | 34.7 s

Mechanical data

Sound level (SPL / SWL) at 50Hz|60Hz	59 / 71 dB(A) 2) 3)	62 / 74 dB(A) 2) 3)	Vibration severity grade	A
Moment of inertia	0.0110 kg m²		Thermal class	F
Bearing DE | NDE	6206 2Z C3	6206 2Z C3	Duty type	S1
bearing lifetime			Direction of rotation	bidirectional
L_{10mh} $F_{Rad\ min}$ for coupling operation 50|60Hz 1)	40000 h	32000 h	Frame material	aluminum
Regreasing device	Without		Net weight of the motor (IM B3)	25 kg
Grease nipple	-/-		Coating (paint finish)	Standard paint finish C2
Type of bearing	Preloaded bearing DE		Color, paint shade	RAL7030
Condensate drainage holes	Without		Motor protection	(A) without (Standard)
External earthing terminal	Without		Method of cooling	IC411 - self ventilated, surface cooled

Terminal box

Terminal box position	top	Max. cross-sectional area	4 mm²
Material of terminal box	Aluminium	Cable diameter from ... to ...	11 mm - 21 mm
Type of terminal box	TB1 F00	Cable entry	2xM32x1,5
Contact screw thread	M4	Cable gland	2 plugs

Notes:

I_A/I_N = locked rotor current / current nominal
M_A/M_N = locked rotor torque / torque nominal
M_K/M_N = break down torque / nominal torque

1) L10mh according to DIN ISO 281 10/2010
2) at rated power / at full load
3) Value is valid only for DOL operation with motor design IC411

responsible dep.	technical reference	created by	approved by	*Technical data are subject to change! There may be discrepancies between calculated and rating plate values.*	Link documents
DI MC LVM		DT Configurator			

SIEMENS

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