

Product Specification

Ø12 mm Brushed DC Motor with Worm Gearbox



PRODUCT SUMMARY

MODEL

TSL-1218GW-N20-D

PRODUCT TYPE

Brushed DC Motor
with Worm Gearbox

GEARMOTOR FAMILY

N20 Worm Gear Motor

AVAILABLE MOTOR RATINGS

3.7 V / 0.67 W; 6 V / 1.35 W
12 V / 3.88 W; 24 V / 3.38 W

MOTOR DIAMETER

Ø12.1 mm max.

AVAILABLE RATIOS

59:1 to 1016:1

OUTPUT SHAFT

Double output shaft, Ø4 mm

Performance data are for reference only. Specifications can be customized for application requirements.

Performance Specifications - 3.7 VDC

MODEL	TSL-1218GW-N20-D	RATED VOLTAGE	3.7 VDC	MOTOR POWER	0.67 W
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Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	rpm ±10%	A	rpm ±10%	A	g·cm	g·cm	A
1016:1	10	0.02	3.2	0.18	1219.2	1824	0.3
603:1	17	0.02	5.5	0.18	844.2	1263	0.3
302:1	33	0.02	10.9	0.18	483.2	722	0.3
236:1	42	0.02	14	0.18	424.8	637	0.3
118:1	85	0.02	28	0.18	236	352	0.3
59:1	169	0.02	55.9	0.18	129.8	194	0.3

Note: Values are measured under the stated rated voltage. Speed tolerance is ±10%. Performance parameters are for reference only and can be customized according to customer requirements.

Performance Specifications - 6 VDC

MODEL	TSL-1218GW-N20-D	RATED VOLTAGE	6 VDC	MOTOR POWER	1.35 W
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Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	rpm $\pm 10\%$	A	rpm $\pm 10\%$	A	g·cm	g·cm	A
1016:1	15	0.022	7.4	0.23	1219.2	2401	0.45
603:1	25	0.022	12.4	0.23	844.2	1680	0.45
302:1	50	0.022	24.8	0.23	483.2	960	0.45
236:1	64	0.022	31.8	0.23	424.8	844	0.45
118:1	127	0.022	63.6	0.23	236	472	0.45
59:1	254	0.022	127.1	0.23	129.8	260	0.45

Note: Values are measured under the stated rated voltage. Speed tolerance is $\pm 10\%$. Performance parameters are for reference only and can be customized according to customer requirements.

Performance Specifications - 12 VDC

MODEL	TSL-1218GW-N20-D	RATED VOLTAGE	12 VDC	MOTOR POWER	3.88 W
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Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	rpm $\pm 10\%$	A	rpm $\pm 10\%$	A	g·cm	g·cm	A
1016:1	30	0.075	18.1	0.32	1219.2	3070	0.85
603:1	50	0.075	30.5	0.32	844.2	2162	0.85
302:1	99	0.075	60.8	0.32	483.2	1254	0.85
236:1	127	0.075	77.9	0.32	424.8	1098	0.85
118:1	254	0.075	155.7	0.32	236	610	0.85
59:1	508	0.075	311.4	0.32	129.8	335	0.85

Note: Values are measured under the stated rated voltage. Speed tolerance is $\pm 10\%$. Performance parameters are for reference only and can be customized according to customer requirements.

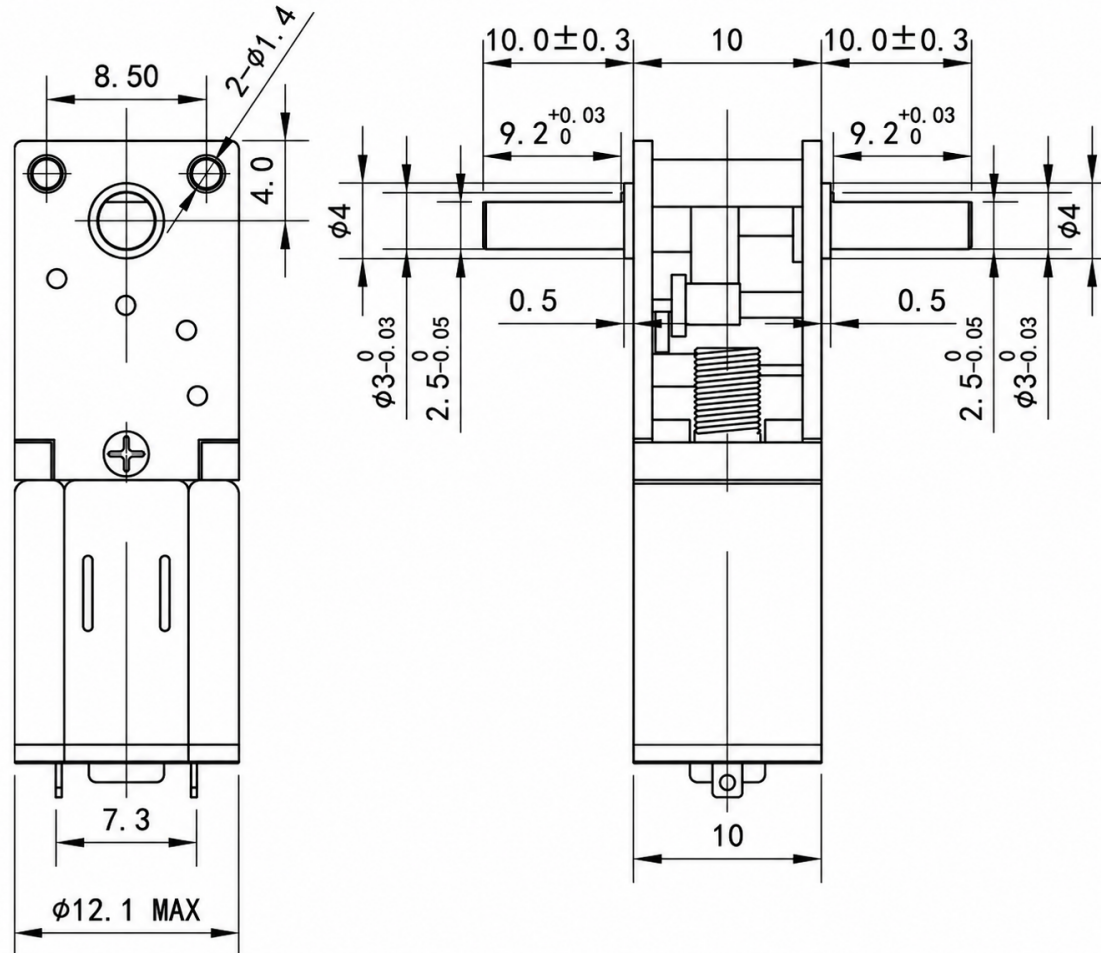
Performance Specifications - 24 VDC

MODEL	TSL-1218GW-N20-D	RATED VOLTAGE	24 VDC	MOTOR POWER	3.38 W
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Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	rpm $\pm 10\%$	A	rpm $\pm 10\%$	A	g·cm	g·cm	A
1016:1	23	0.03	13.3	0.14	1219.2	2887	0.34
603:1	38	0.03	22.4	0.14	844.2	2055	0.34
302:1	76	0.03	44.7	0.14	483.2	1173	0.34
236:1	97	0.03	57.2	0.14	424.8	1035	0.34
118:1	195	0.03	114.4	0.14	236	571	0.34
59:1	390	0.03	228.8	0.14	129.8	314	0.34

Note: Values are measured under the stated rated voltage. Speed tolerance is $\pm 10\%$. Performance parameters are for reference only and can be customized according to customer requirements.

Outline Dimensions



KEY DIMENSIONS

MOTOR DIAMETER
 $\phi 12.1 \text{ mm max.}$

GEARBOX WIDTH
 10 mm

MOTOR BODY WIDTH
 10 mm

OUTPUT SHAFT
 Double shaft, $\phi 4 \text{ mm}$

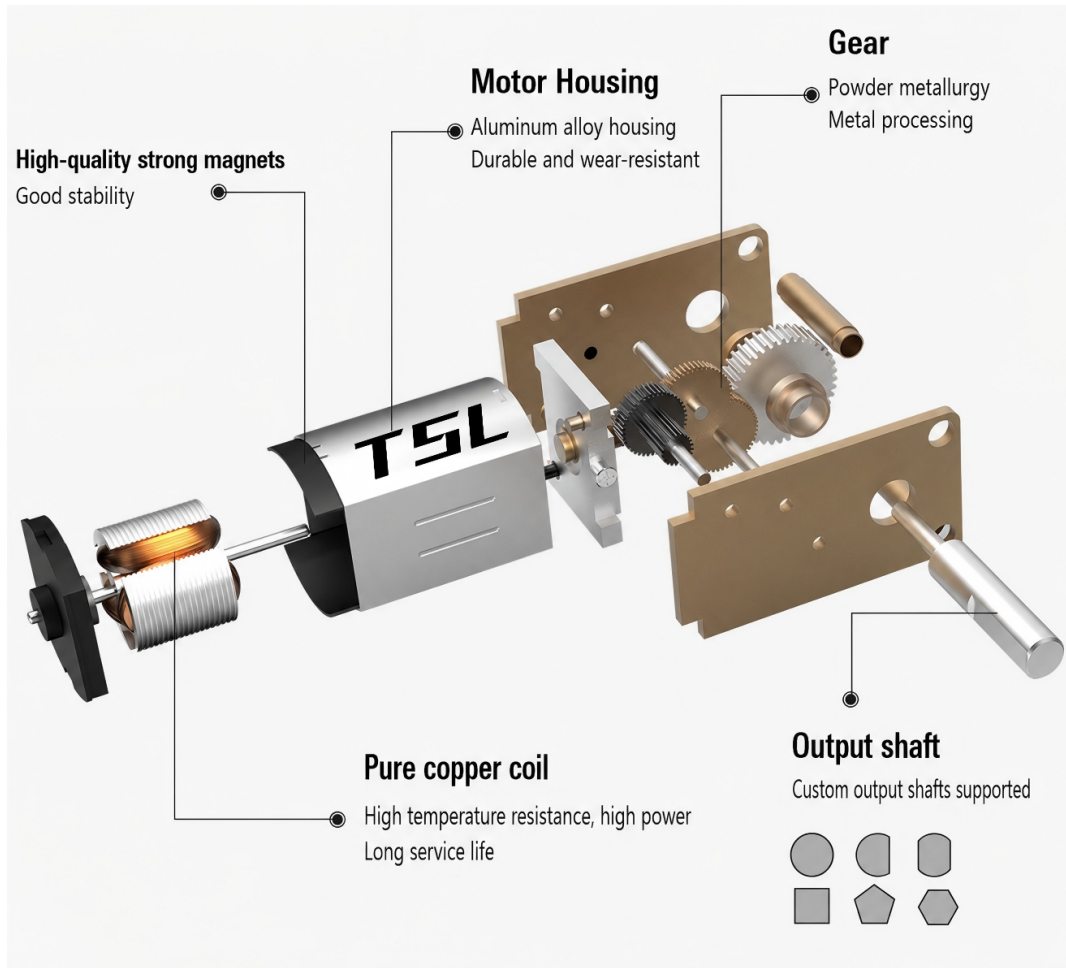
SHAFT EXTENSION
 $10.0 \pm 0.3 \text{ mm}$ each side

MOUNTING-HOLE PITCH
 8.50 mm

MOUNTING HOLES
 $2 \times \phi 1.4 \text{ mm}$

Refer to the drawing for tolerances and shaft-flat details.

Internal Construction and Features



PRODUCT FEATURES

- **High-strength magnets**
Stable motor performance
- **Aluminum-alloy housing**
Durable and wear-resistant
- **Metal gear train**
Powder-metallurgy gear processing
- **Pure copper coil**
High-temperature resistance and long service life
- **Custom output shaft**
Multiple shaft profiles can be supplied
- **Compact configuration**
Suitable for space-limited transmission systems