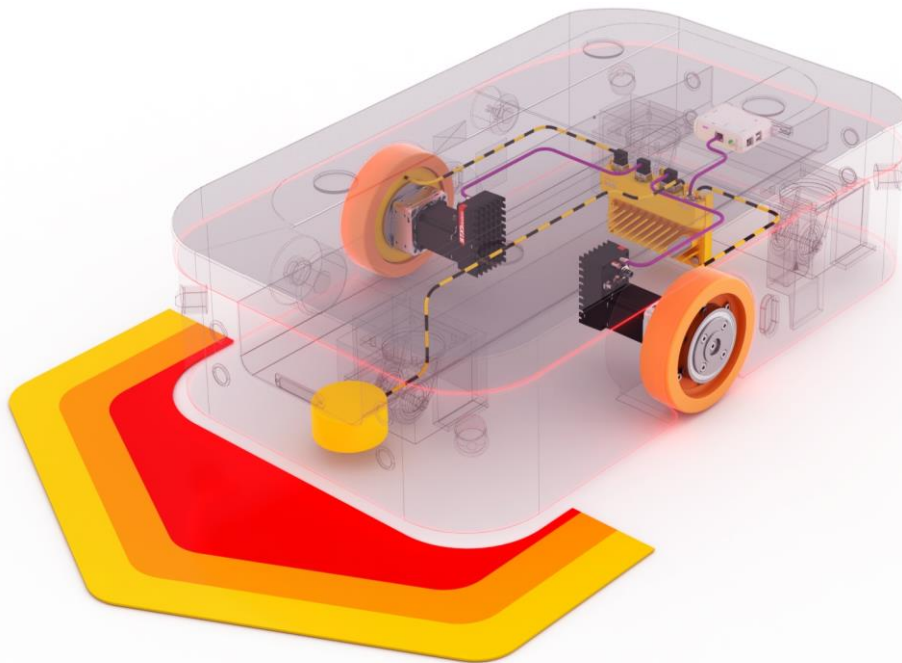


Design Your Mobile Robots Without Boundaries.

Optimized wheel-drive systems
for AGVs and AMRs



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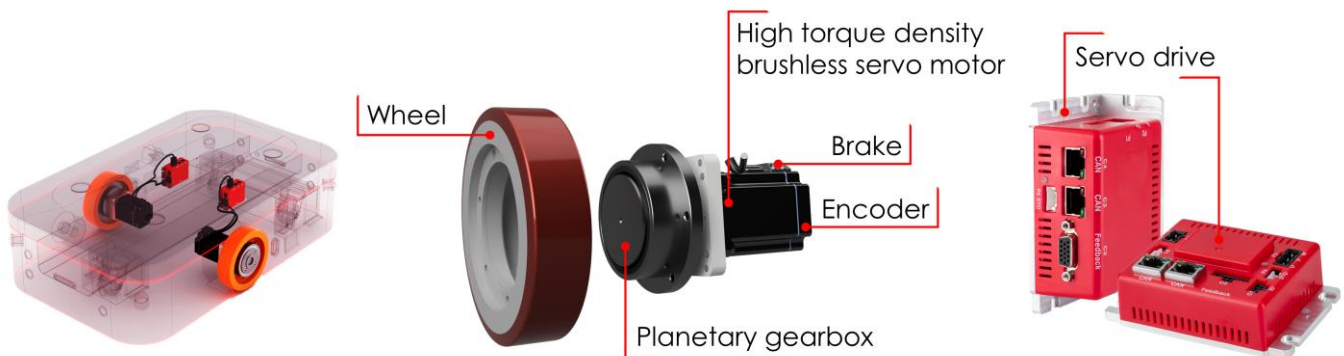
1. Optimized Wheel-Drive Systems

STXI's Mobile Motion Systems are a complete and ready-to-use wheel-drive system designed and optimized specifically for the requirements of automated guided vehicles and autonomous mobile robots:

- **Compact** dimensions for an easy fit within mobile robot size constraints.
- **Robust** design for durability in tough environmental conditions.
- **Safe** STO function ensures safe operation and prevents workplace injuries.
- **Efficient** energy consumption for a greater range of non-stop mobility.

Compact drives and gear motors

The system includes the **MOT-GM** high torque density, brushless servo motor, with planetary gearbox, spring-loaded brake, encoder, and the **ZED** servo drive. This compact wheel-drive system maximizes space savings and simplifies the cabling and mechanical design of the mobile vehicle.

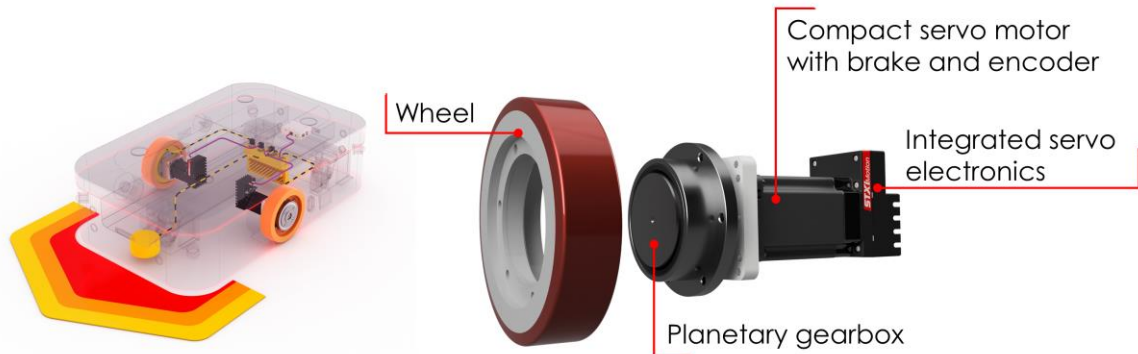


Motor and gear options

- All motors include a brake, but can be ordered without a brake.
- Can be ordered with or without a mounted wheel.
- All motors are rated IP40/IP54.
- Gears with standard ratios – 10, 16, and 22.5. Other ratios are available upon request.

Integrated wheel-hub motor

The new TIM-GT integrated servo motor series, with a power range spanning from 200W to 900W, is ideal for mobile robots with limited design space. TIM also supports absolute single-turn and multi-turn encoders, which, together with functional safety, meet the full range of resolution and safe operation requirements of diverse applications.



Safe motion using a standard incremental encoder

According to ISO 3691-4, PL d

An STO SIL3, Cat 3, PL 3 safety function can be connected to a PLC/motion controller and/or safety controller.

Two additional non-safe encoders can be connected from the motor to the safety controller (such as a Flexi Mobile from SICK) for safe motion monitoring, thereby minimizing the complexity of the AGV design.

2. MOT-GM and TIM-GT Gearmotors

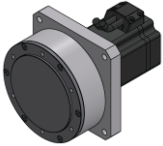
A number of gearmotors are available for various AGV/AMR sizes and maximum payload requirements. Every MOT-GM and TIM-GT can provide a different combination of gear size, ratio, mounting orientation, and motor with either a 24V or 48V supply.

Also available are various wheels capable of carrying and moving the maximum rated payload at speeds of up to 5 m/s.


2.1 200W 24VDC MOT-GM and TIM-GT

200W 24VDC Gearmotor Models

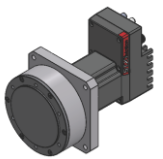
200W 24VDC MOT-GM Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	200 W	24VDC	10	GM-1852-00	SD01-015	WHL-AD50X150MM Ø 150 mm
			12	GM-2817-00	SD01-015	
			16	GM-2717-00	SD01-015	
			20	GM-3217-00	SD01-015	

200W 24VDC MOT-GM Radial Mounting

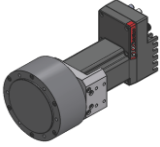
	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	200 W	24VDC	10	GM-1752-00	SD01-015	WHL-AD50X150MM Ø 150 mm
			12	GM-2117-00	SD01-015	
			16	GM-1917-00	SD01-015	
			20	GM-2017-00	SD01-015	

200W 24VDC TIM-GT Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	200 W	24VDC	10	GT-1864-00	EtherCAT	WHL-AD50X150MM Ø 150 mm
				GT-1866-00	CANopen	
			12	GT-2865-00	EtherCAT	
				GT-2867-00	CANopen	
			16	GT-2765-00	EtherCAT	
				GT-2767-00	CANopen	
			20	GT-3265-00	EtherCAT	
				GT-3267-00	CANopen	

Mobile Motion System.

200W 24VDC TIM-GT Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	200 W	24VDC	10	GT-1764-00	EtherCAT	WHL-AD50X150MM Ø 150 mm
				GT-1766-00	CANopen	
			12	GT-2165-00	EtherCAT	
				GT-2167-00	CANopen	
			16	GT-1965-00	EtherCAT	
				GT-1967-00	CANopen	
			20	GT-2065-00	EtherCAT	
				GT-2067-00	CANopen	

Mobile Motion System.

200W 24VDC Gearmotor Specifications

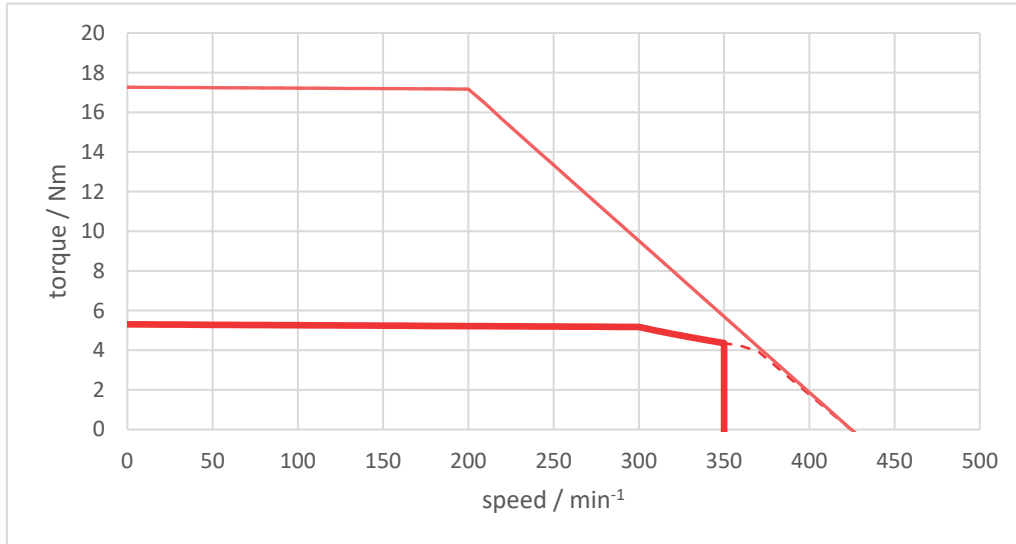
Feature	Units	GM-1852-00	GM 2817-00	GM-2717-00	GM-3217-00
		GM-1752-00	GM-2117-00	GM-1917-00	GM-2017-00
		GT-1864-00	GT-2865-00	GT-2765-00	GT-3265-00
		GT-1866-00	GT-2867-00	GT-2767-00	GT_3267-00
		GT-1764-00	GT-2165-00	GT-1965-00	GT-2065-00
		GT-1766-00	GT-2167-00	GT-1967-00	GT-2037-00
Motor rated power	W	200			
Motor voltage	VDC	24			
Motor rated current	Arms	11			
Feedback		AqB, index, Halls, RS422 / Absolute Single turn			
Motor temperature sensor		PTC (NXP KTY-150)			
Brake voltage	VDC	24 ±10%			
Brake power	W	7.4			
Holding torque	Nm	1.3			
Insulation class		B (130°C)			
Brake switching cycles B10 @ 0 rpm		500,000			
Gear nom. torque	Nm	5.3	6.2	8.3	10.3
Gear max. torque	Nm	17	20.7	27.5	34.5
Max. backlash	arcmin				
Gear level of efficiency at nominal speed		0.92			
Gear ratio	i	10	12	16	20
Gear rated speed	rpm	300	250	187.5	150
Gear rated speed with Ø150 mm wheel	m/sec	2.36	1.96	1.47	1.18
Static torque of motor mechanical brake at gear output	Nm	13	15.6	20.8	26
Gear max. radial force dynamic	N	2,250	4,500		
Gear max. axial force	N	1000	2,500		
Gear lifespan at nominal torque	h	20,000			
Weight	kg	3.2	3.2		
Operating temperature	°C	-10–40			
Protection class		IP54			

200W 24VDC Gearmotor Speed/Torque Curves

GM-1852-00, GM-1752-00, GT-1864-00, GT-1764-00, GT-1866-00, GT-1767-00

Gear output nom./max. torque:

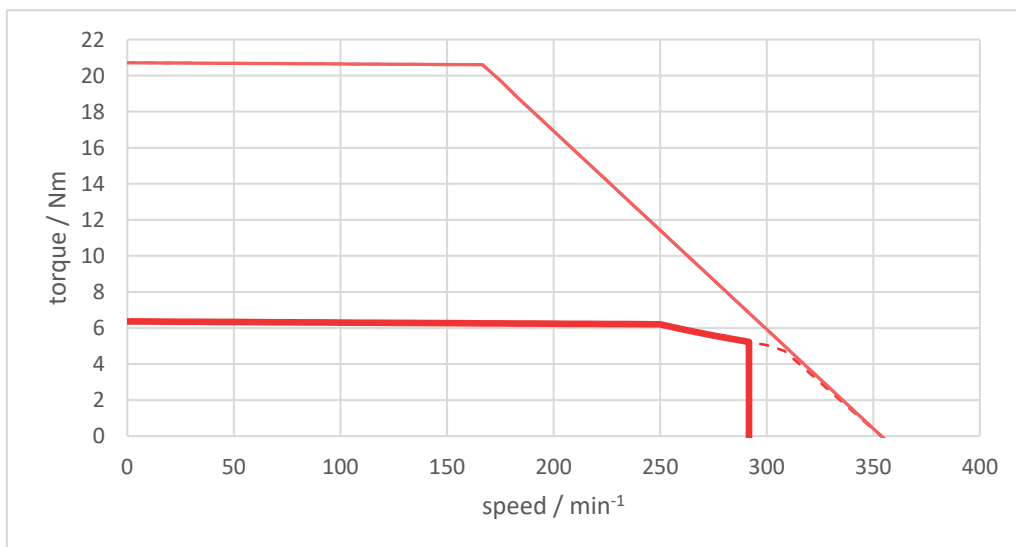
$i = 10$ 5.3/17 Nm



GM 2817-00, GM-2117-00, GT-2865-00, GT-2165-00, GT-2867-00, GT-2167-00

Gear output nom./max. torque:

$i = 12$ 6.2/20.7 Nm

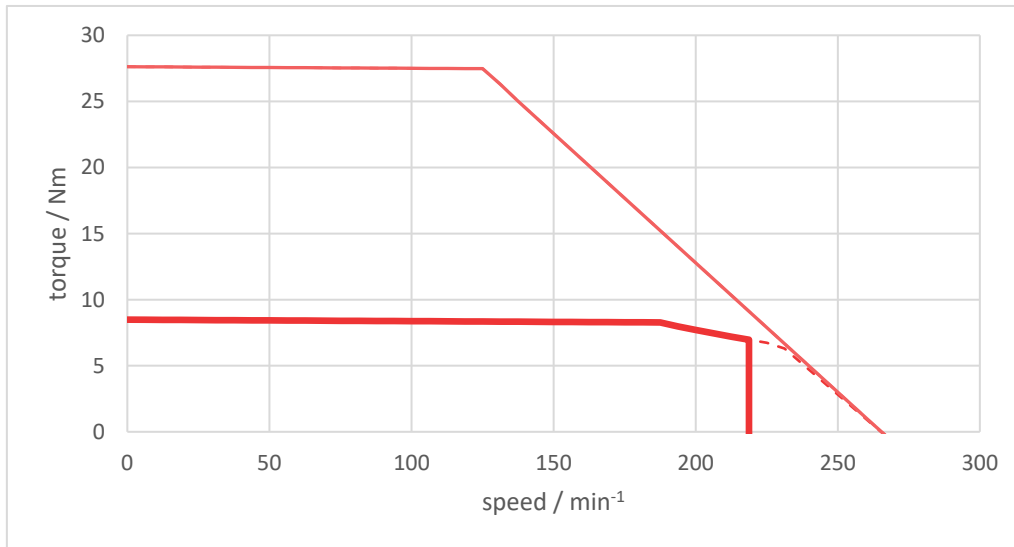


Mobile Motion System.

GM-2717-00, GM-1917-00, GT-2765-00, GT-1965-00, GT-2767-00, GT-1967-00

Gear output nom./max. torque:

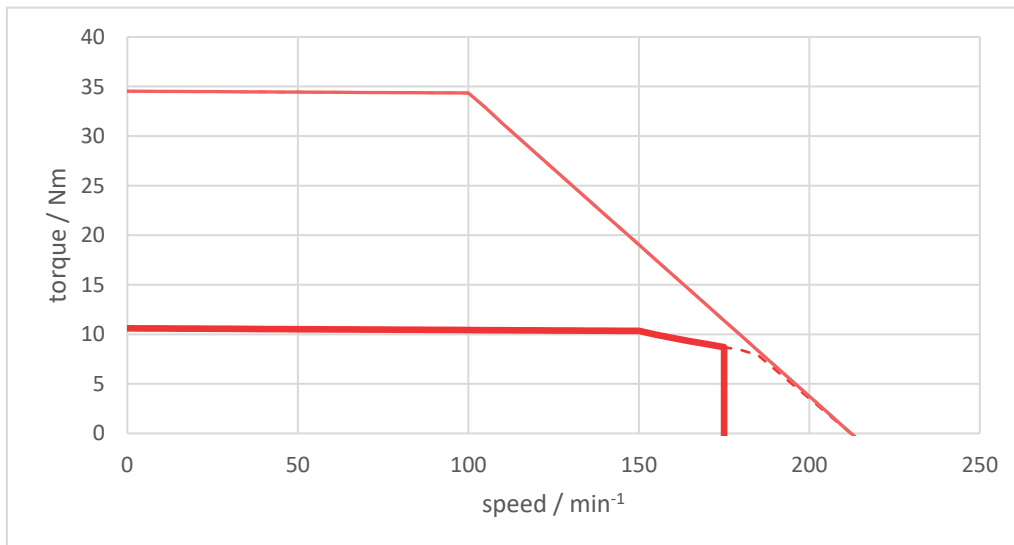
$i = 16$ 8.3/27.5 Nm



GM-3217-00, GM-2017-00, GT-3265-00, GT-2065-00, GT-3267-00, GT-2067-00

Gear output nom./max. torque:

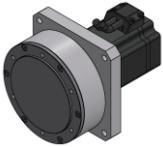
$i = 20$ 10.3/34.5 Nm




2.2 200W 48VDC MOT-GM and TIM-GT

200W 48VDC Gearmotor Models

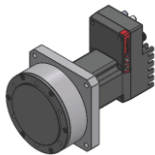
200W 48VDC MOT-GM Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	200W	48VDC	10	GM-1811-00	SD01-025	WHL-AD50X150MM Ø 150 mm
			12	GM-2850-00	SD01-015	
			16	GM-2750-00	SD01-015	
			20	GM-3250-00	SD01-015	

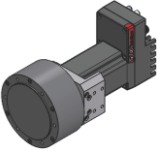
200W 48VDC MOT-GM Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	200 W	48VDC	10	GM-1711-00	SD01-025	WHL-AD50X150MM Ø 150 mm
			12	GM-2150-00	SD01-015	
			16	GM-1950-00	SD01-015	
			20	GM-2050-00	SD01-015	

200W 48VDC TIM-GT Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	200W	48VDC	10	GT-1836-00	EtherCAT	WHL-AD50X150MM Ø 150 mm
				GT-1838-00	CANopen	
			12	GT-2837-00	EtherCAT	
				GT-2839-00	CANopen	
			16	GT-2737-00	EtherCAT	
				GT-2739-00	CANopen	
			20	GT-3237-00	EtherCAT	
				GT-3239-00	CANopen	

200W 48VDC TIM-GT Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	200 W	48VDC	10	GT-1736-00	EtherCAT	WHL-AD50X150MM Ø 150 mm
				GT-1738-00	CANopen	
			12	GT-2137-00	EtherCAT	
				GT-2139-00	CANopen	
			16	GT-1937-00	EtherCAT	
				GT-1939-00	CANopen	
			20	GT-2037-00	EtherCAT	
				GT-2039-00	CANopen	

200W 48VDC Gearmotor Specifications

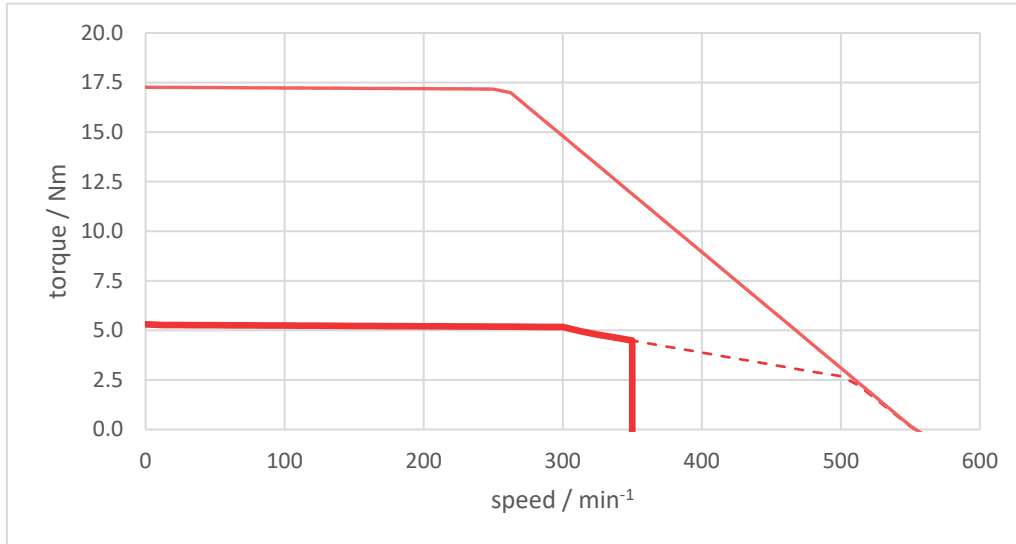
Feature	Units	GM 1811-00	GM 2850-00	GM-2750-00	GM-3250-00
		GM-1711-00	GM-2150-00	GM-1950-00	GM-2050-00
		GT-1836-00	GT-2837-00	GT-2737-00	GT-3237-00
		GT-1838-00	GT-2839-00	GT-2739-00	GT-3239-00
		GT-1736-00	GT-2137-00	GT-1937-00	GT-2037-00
		GT-1738-00	GT_2139-00	GT-1939-00	GT-2039-00
Motor rated power	W	200			
Motor voltage	VDC	48			
Motor rated current	Arms	6.5			
Feedback		AqB, index, Halls, RS422 / Absolute Single turn			
Motor temperature sensor		PTC (NXP KTY-150)			
Brake voltage	VDC	24 ± 10%			
Brake power	W	7.4			
Holding torque	Nm	1.3			
Insulation class		B (130°C)			
Brake switching cycles B10 @ 0 rpm		500,000			
Gear nom. torque	Nm	5.3	6.2	8.3	10.3
Gear max. torque	Nm	17	20.7	27.5	34.5
Gear level of efficiency		0.95			
Gear ratio	i	10	12	16	20
Gear rated speed	rpm	300	250	187,5	150
Gear rated speed with Ø150 mm wheel	m/sec	2.36	1.96	1.47	1.18
Torque of motor mechanical brake at gear output	Nm	13	15.6	20.8	26
Gear max. radial force dynamic	N	2,250	4,500		
Gear max. axial force	N	1000	2,500		
Gear lifespan at nominal torque	h	20,000			
Weight	kg	3.2	4.7		
Operating temperature	°C	-10–40			
Protection class		IP54			

200W 48VDC Gearmotor Speed/Torque Curves

GM-1811-00, GM-1711-00, GT-1836-00, GT-1736-00, GT-1838-00, GT-1738-00

Gear output nom./max. torque:

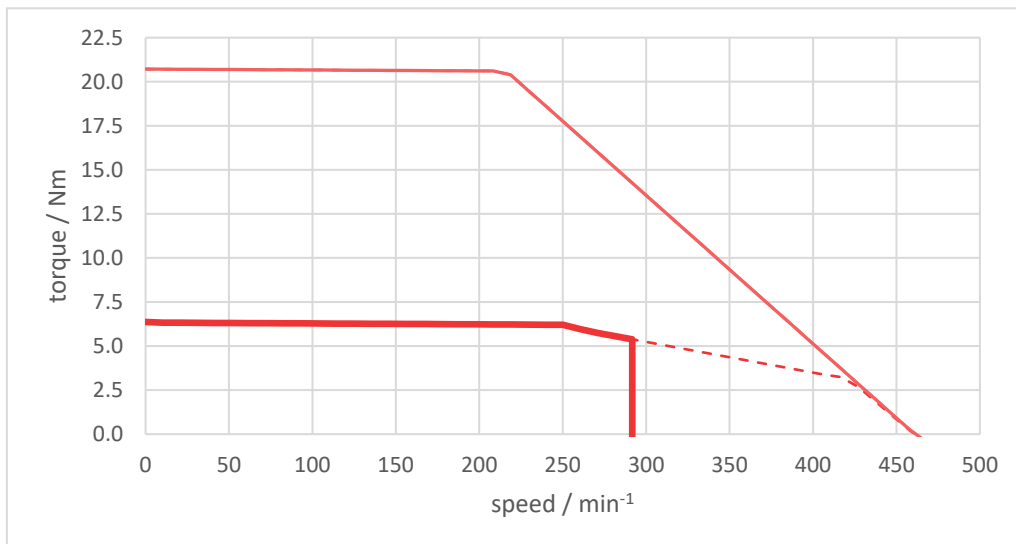
$i = 10$ 5.3/17 Nm



GM-2850-00, GM-2150-00, GT-2837-00, GT-2137-00, GT-2839-00, GT-2139-00

Gear output nom./max. torque:

$i = 12$ 6.2/20.7 Nm

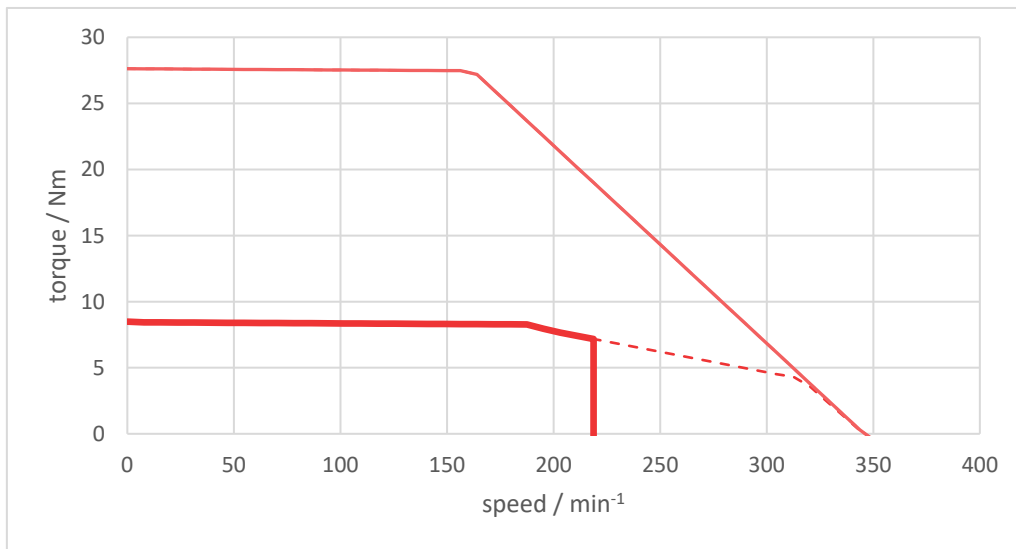


Mobile Motion System.

GM-2750-00, GM-1950-00, GT-2737-00, GT-1937-00, GT-2739-00, GT-1939-00

Gear output nom./max. torque:

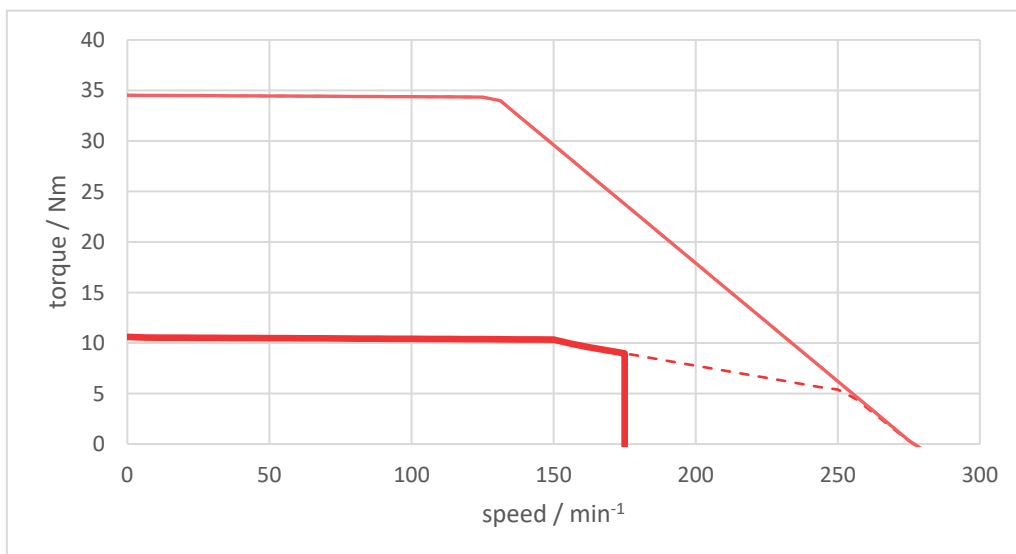
$i = 16$ 8.3/27.5 Nm



GM-3250-00, GM-2050-00, GT-3237-00, GT-2037-00, GT-3239-00, GT-2039-00

Gear output nom./max. torque:

$i = 20$ 10.3/34.5 Nm

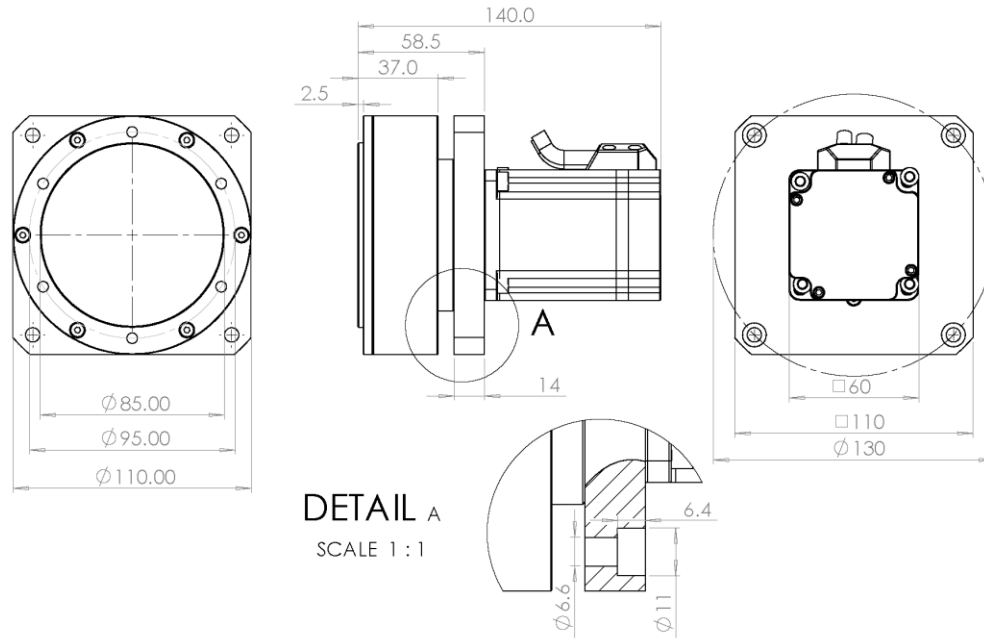


2.3 Dimensions – 200W 24/48VDC MOT-GM and TIM-GT

MOT-GM 200W 24/48VDC Axial Mounting

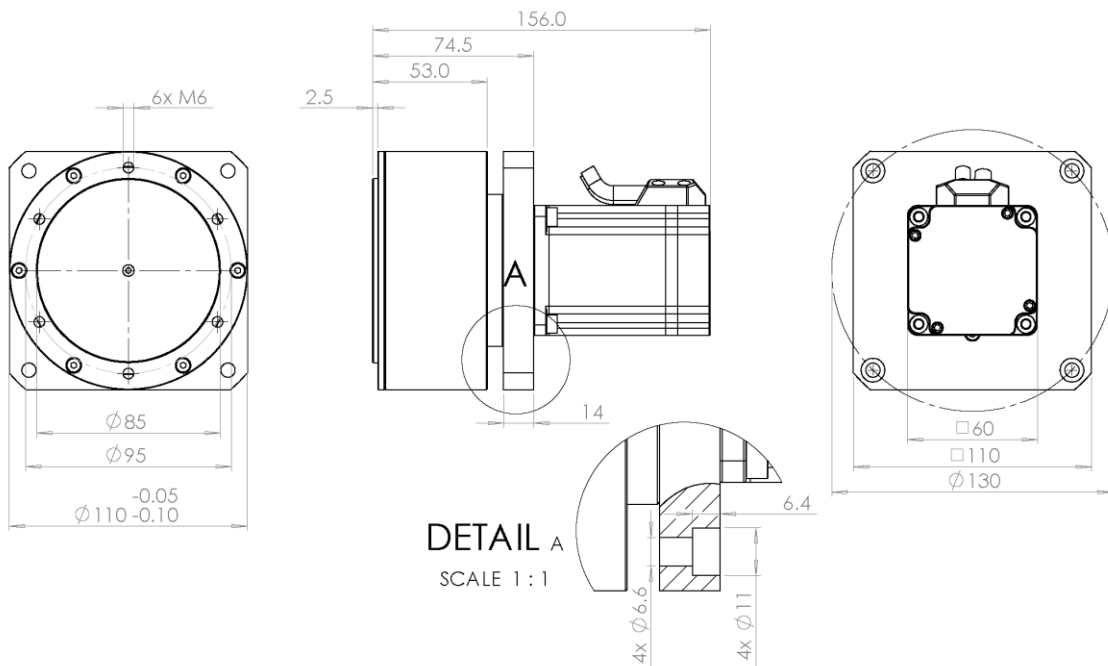
GM-1852-00, GM-1811-00

Ratio $i=10$



GM-2817-00, GM-2717-00, GM-3217-00, GM-2850-00, GM-2750-00, GM-3250-00

Ratio $i=12$, $i=16$, $i=20$

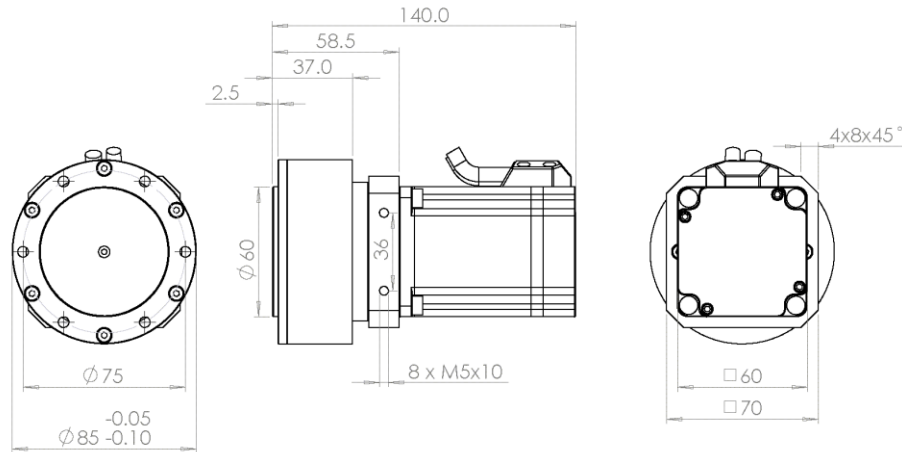


Mobile Motion System.

MOT-GM 200W 24/48VDC Radial Mounting

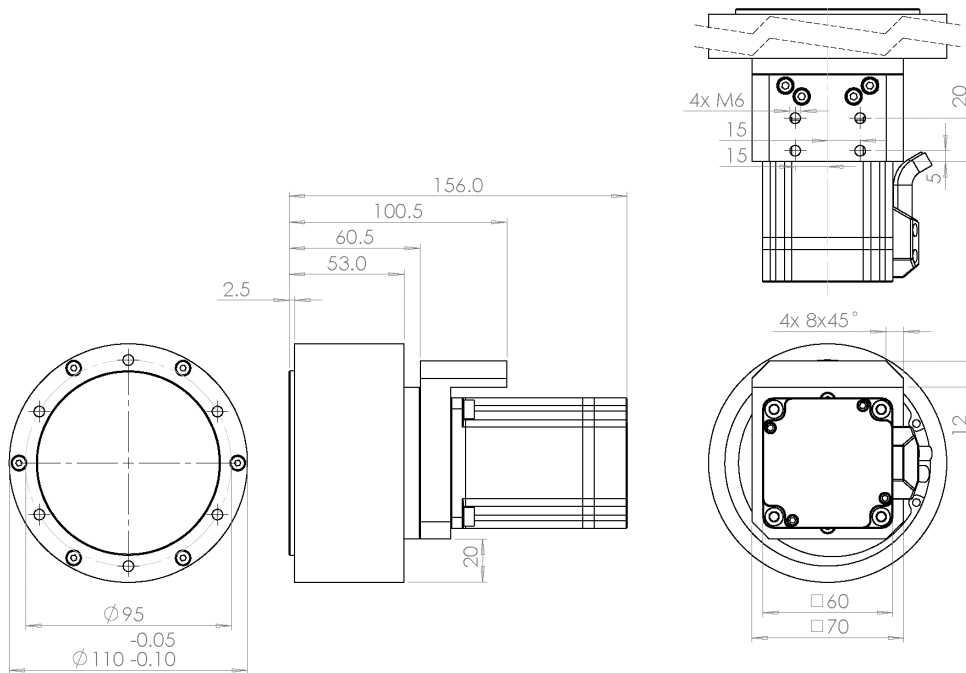
GM-1752-00, GM-1711-00

Ratio $i=10$



GM-2117-00, GM-1917-00, GM-2017-00, GM-2150-00, GM-1950-00, GM-2050-00

Ratio $i=12$, $i=16$, $i=20$

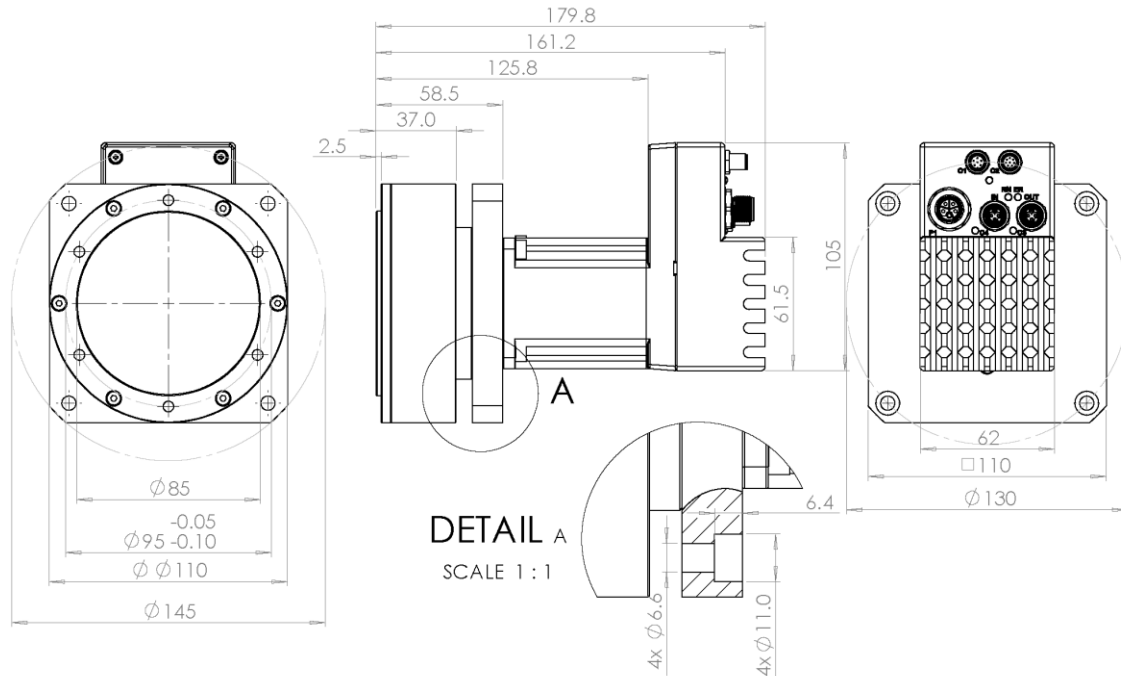


Mobile Motion System.

TIM-GT 200W 24/48VDC Axial Mounting

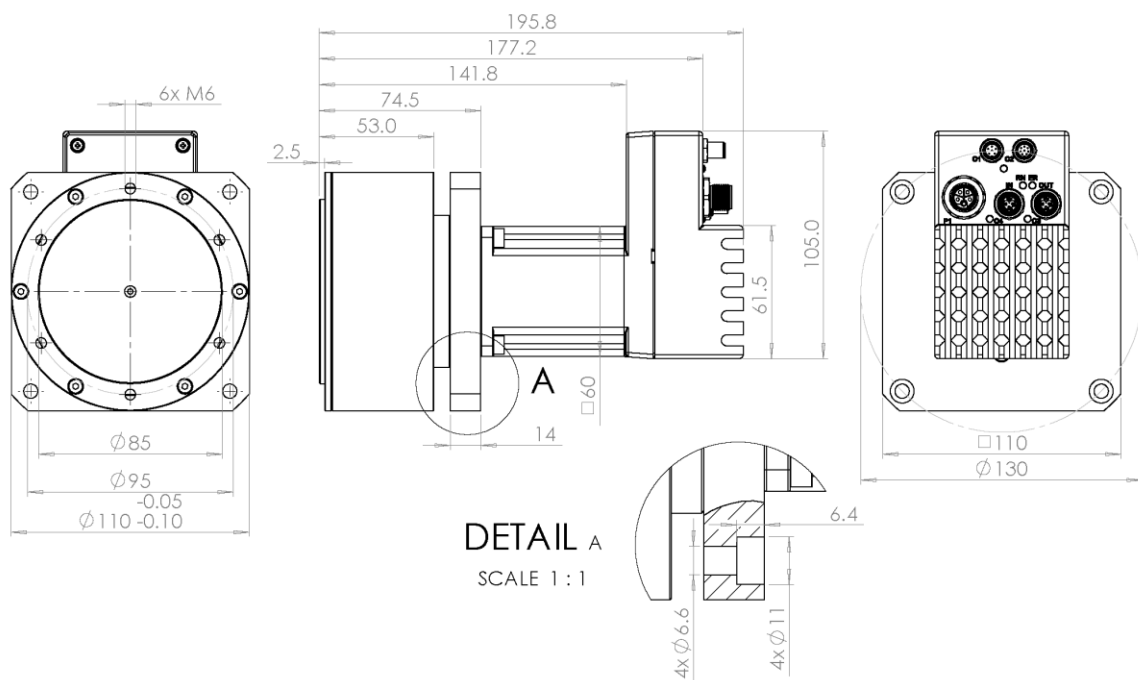
GT-1864-00, GT-1836-00, GT-1866-00, GT-1838-00

Ratio $i=10$



GT-2865-00, GT-2765-00, GT-3265-00, GT-2837-00, GT-2737-00, GT-3237-00,
GT-2867-00, GT-2767-00, GT-3267-00, GT-2839-00, GT-2739-00, GT-3239-00

Ratio $i=12$, $i=16$, $i=20$

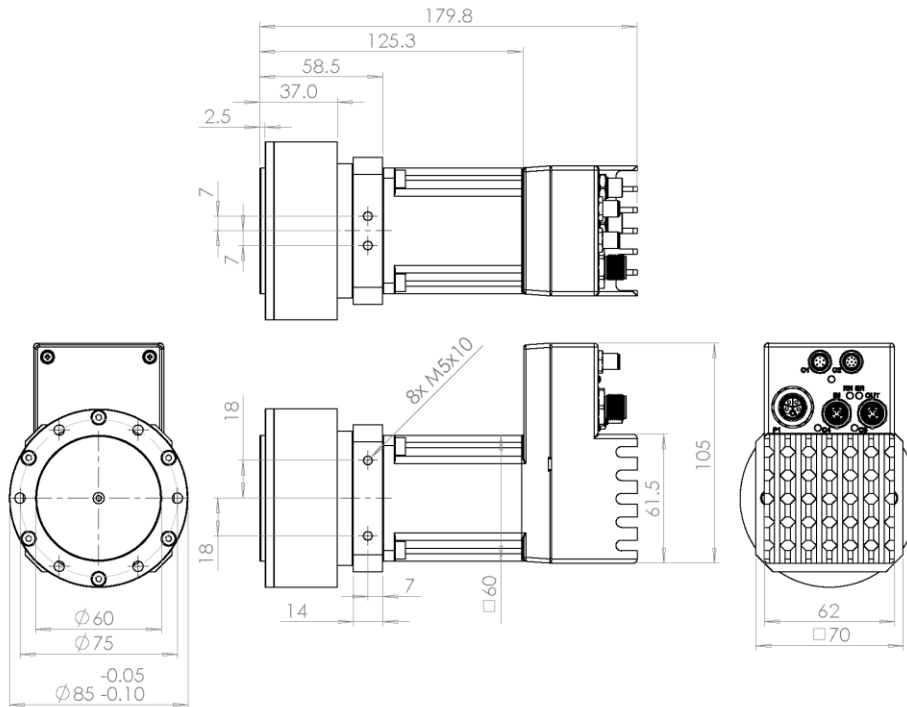


Mobile Motion System.

TIM-GT 200W 24/48VDC Radial Mounting

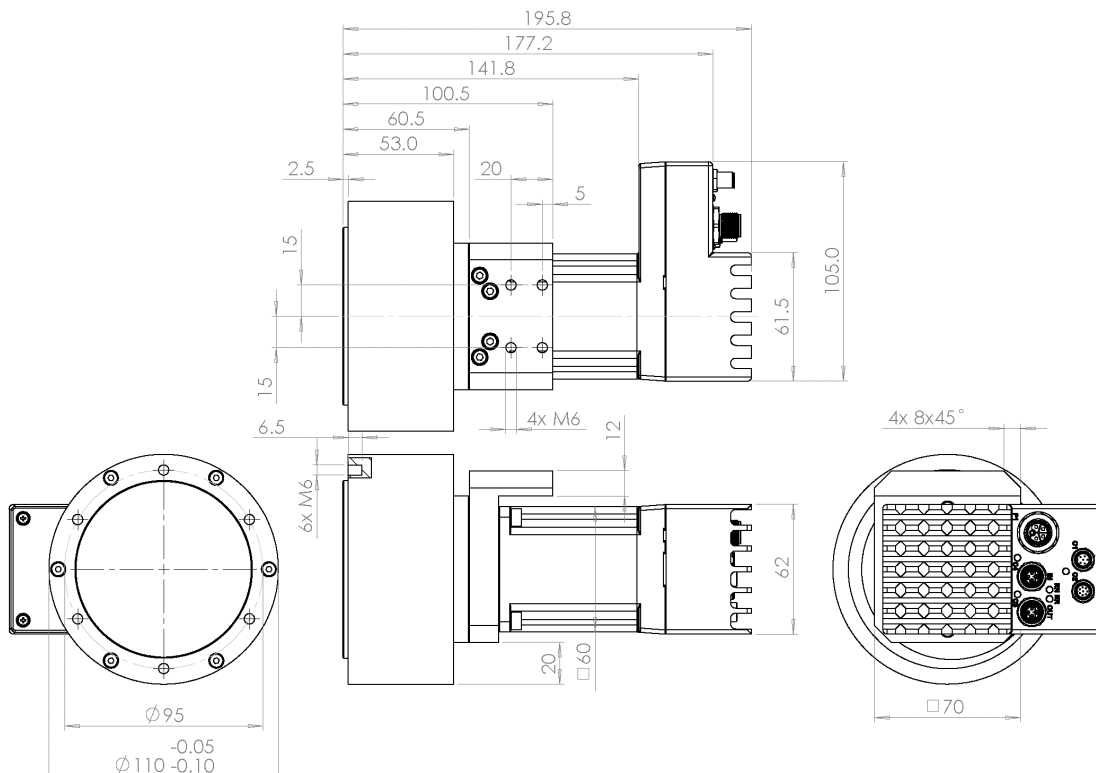
GT-1764-00, GM-1736-00, GT-1766-00, GM-1738-00

Ratio $i=10$



GT-2165-00, GT-1965-00, GT-2065-00, GT-2137-00, GT-1937-00, GT-2037-00,
GT-2167-00, GT-1967-00, GT-2067-00, GT-2139-00, GT-1939-00, GT-2039-00

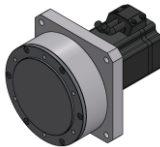
Ratio $i=12$, $i=16$, $i=20$




2.4 400W 24VDC MOT-GM and TIM-GT

400W 24VDC MOT-GM Gearmotor Models

400W 24VDC MOT-GM Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	400 W	24VDC	10	GM-1853-00	SD01-015	WHL-AD50X150MM Ø 150 mm
			12	GM-2816-00	SD01-030	
			16	GM-2716-00	SD01-030	
			20	GM-3216-00	SD01-030	

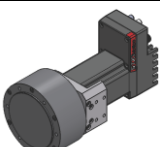
400W 24VDC MOT-GM Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	400 W	24VDC	10	GM-1753-00	SD01-015	WHL-AD50X150MM Ø 150 mm
			12	GM-2116-00	SD01-030	
			16	GM-1916-00	SD01-030	
			20	GM-2016-00	SD01-030	

400W 24VDC TIM-GT Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	400 W	24VDC	10	GT-1861-00	EtherCAT	WHL-AD50X150MM Ø 150 mm
				GT-1863-00	CANopen	
			12	GT-2860-00	EtherCAT	
				GT-2862-00	CANopen	
			16	GT-2760-00	EtherCAT	
				GT-2762-00	CANopen	
			20	GT-3260-00	EtherCAT	
				GT-3262-00	CANopen	

400W 24VDC TIM-GT Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	400 W	24VDC	10	GT-1761-00	EtherCAT	WHL-AD50X150MM Ø 150 mm
				GT-1763-00	CANopen	
			12	GT-2160-00	EtherCAT	
				GT-2162-00	CANopen	
			16	GT-1960-00	EtherCAT	
				GT-1962-00	CANopen	
			20	GT-2060-00	EtherCAT	
				GT-2062-00	CANopen	

Mobile Motion System.

400W 24VDC Gearmotor Specifications

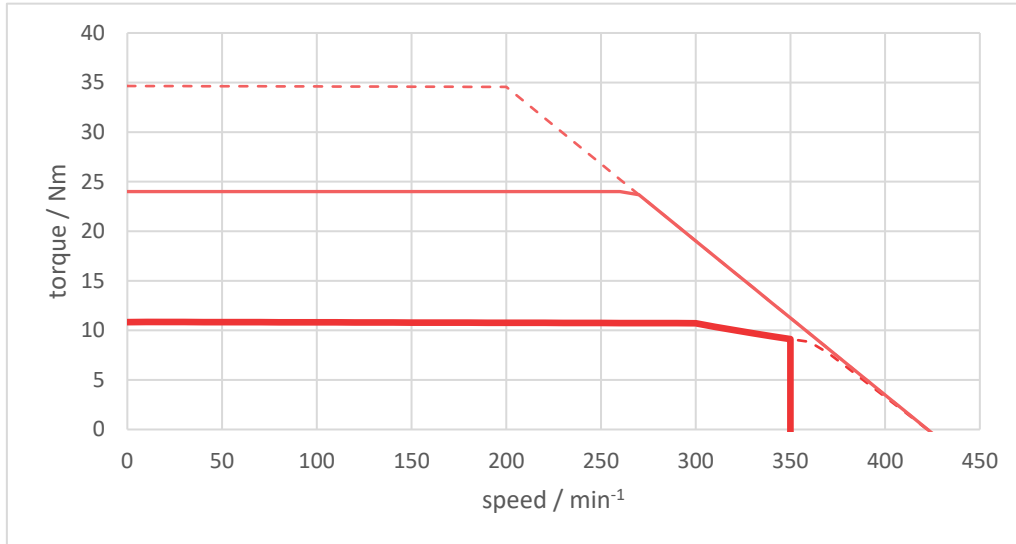
Feature	Units	GM-1853-00	GM-2816-00	GM-2716-00	GM-3216-00
		GM-1753-00	GM-2116-00	GM-1916-00	GM-2016-00
		GT-1861-00	GT-2860-00	GT-2760-00	GT-3260-00
		GT-1863-00	GT-2862-00	GT-2762-00	GT-3262-00
		GT-1761-00	GT-2160-00	GT-1960-00	GT-2060-00
		GT-1763-00	GT-2162-00	GT-1962-00	GT-2062-00
Motor rated power	W	400			
Motor voltage	VDC	24			
Motor rated current	Arms	22			
Feedback		AqB, index, Halls, RS422 / Absolute Single turn			
Motor temperature sensor		PTC (NXP KTY-150)			
Brake voltage	VDC	24 ±10%			
Brake power	W	7.4			
Holding torque	Nm	1.3			
Insulation class		B (130°C)			
Brake switching cycles B10 @ 0 rpm		500,000			
Gear nom. torque	Nm	10.8	12.9	17.3	21.6
Gear max. torque	Nm	24	41.5	55.4	69
Gear level of efficiency		0.92			
Gear ratio	i	10	12	16	20
Gear rated speed	rpm	300	250	188	150
Gear rated speed with Ø150 mm wheel	m/sec	2,36	1.97	1.48	1.18
Torque of motor mechanical brake at gear output	Nm	13	15.6	20.8	26
Gear max. radial force dynamic	N	2,250	4,500		
Gear max. axial force	N	1000	2,500		
Gear lifespan at nominal torque	h	20,000			
Weight	kg	3.2	3.2		
Operating temperature	°C	-10–40			
Protection class		IP54			

400W 24VDC Gearmotor Speed/Torque Curves

GM-1853-00, GM-1753-00, GT-1861-00, GT-1761-00, GT-1863-00, GT-1763-00

Gear output nom./max. torque:

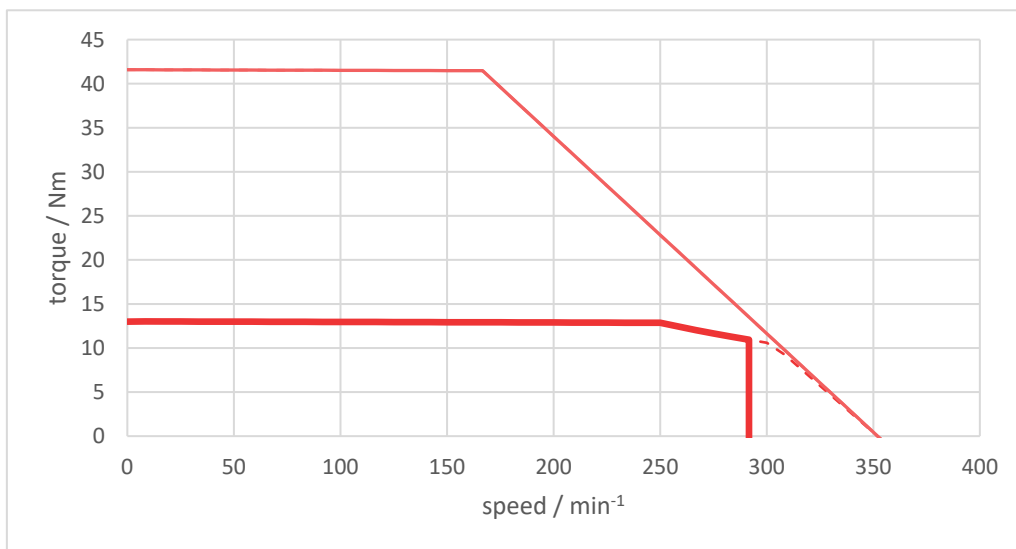
$i = 10$ 10.8/24 Nm



GM-2816-00, GM-2116-00, GT-2860-00, GT-2160-00, GT-2862-00, GT-2162-00

Gear output nom./max. torque:

$i = 12$ 12.9/41.5 Nm

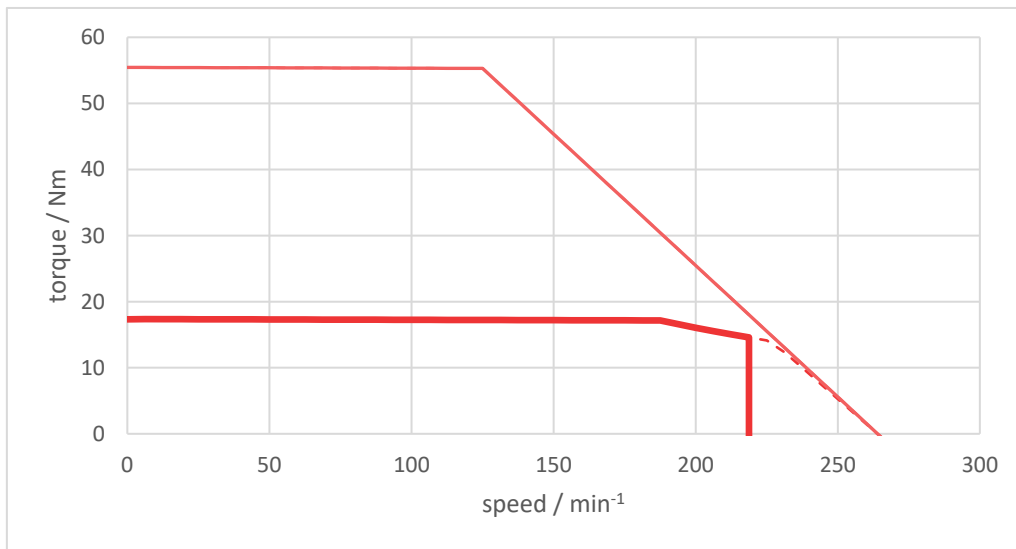


Mobile Motion System.

GM-2716-00, GM-1916-00, GT-2760-00, GT-1960-00, GT-2762-00, GT-1962-00

Gear output nom./max. torque:

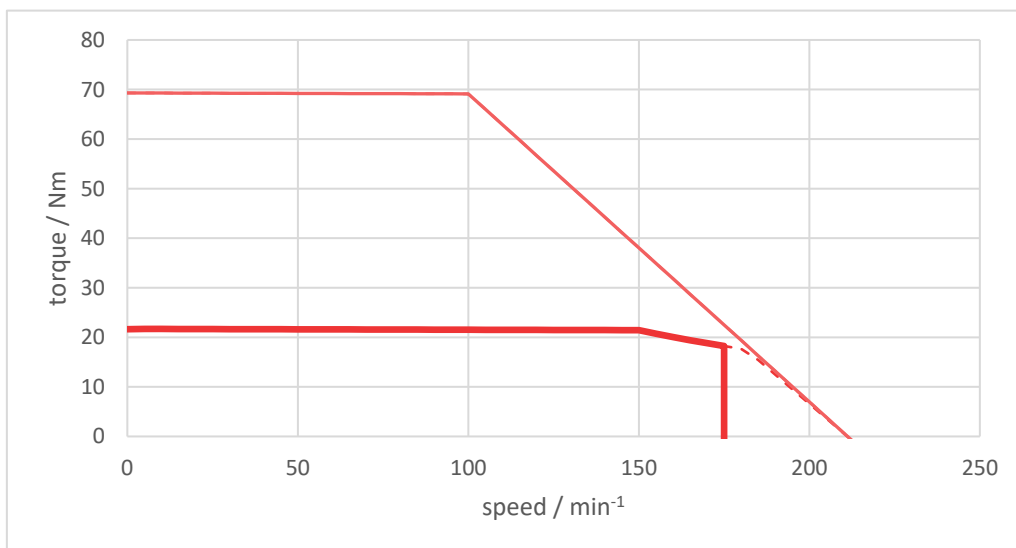
$i = 16$ 17.3/55.4 Nm



GM-3216-00, GM-2016-00, GT-3260-00, GT-2060-00, GT-3262-00, GT-2062-00

Gear output nom./max. torque:

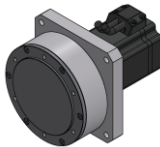
$i = 20$ 21.6/69 Nm




2.5 400W 48VDC MOT-GM and TIM-GT

400W 48VDC Gearmotor Models

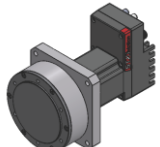
400W 48VDC MOT-GM Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	400 W	48VDC	10	GM-1812-00	SD01-025	WHL-AD50X150MM Ø 150 mm
			12	GM-2813-00	SD01-025	
			16	GM-2713-00	SD01-025	
			20	GM-3213-00	SD01-025	

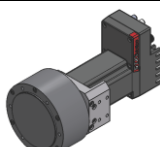
400W 48VDC MOT-GM Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	400 W	48VDC	10	GM-1712-00	SD01-025	WHL-AD50X150MM Ø 150 mm
			12	GM-2113-00	SD01-025	
			16	GM-1913-00	SD01-025	
			20	GM-2013-00	SD01-025	

400W 48VDC TIM-GT Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	400 W	48VDC	10	GT-1833-00	EtherCAT	WHL-AD50X150MM Ø 150 mm
				GT-1835-00	CANopen	
			12	GT-2832-00	EtherCAT	
				GT-2834-00	CANopen	
			16	GT-2732-00	EtherCAT	
				GT-2734-00	CANopen	
			20	GT-3232-00	EtherCAT	
				GT-3234-00	CANopen	

400W 48VDC TIM-GT Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	400 W	48VDC	10	GT-1733-00	EtherCAT	WHL-AD50X150MM Ø 150 mm
				GT-1735-00	CANopen	
			12	GT-2132-00	EtherCAT	
				GT-2134-00	CANopen	
			16	GT-1932-00	EtherCAT	
				GT-1934-00	CANopen	
			20	GT-2032-00	EtherCAT	
				GT-2034-00	CANopen	

Mobile Motion System.

400W 48VDC Gearmotor Specifications

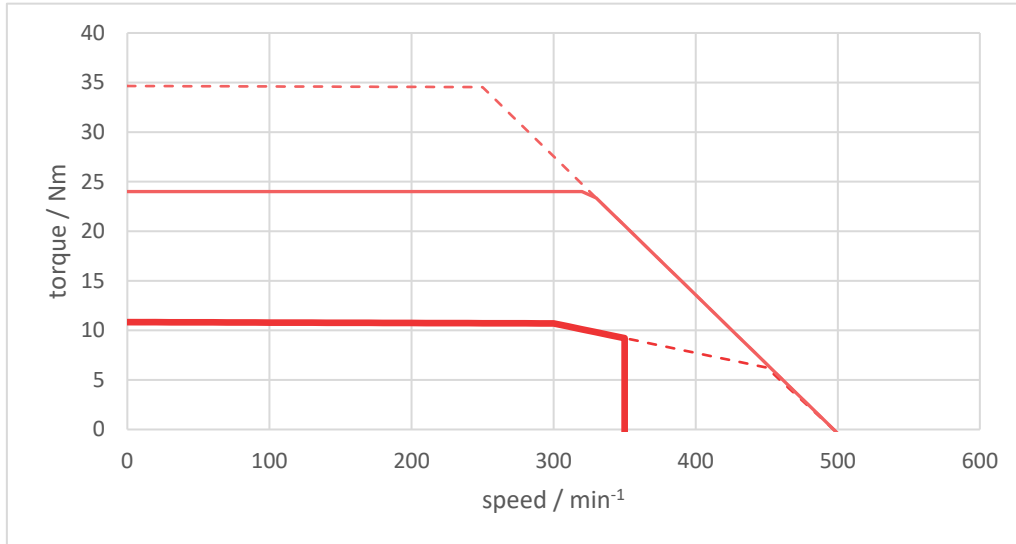
Feature	Units	GM-1812-00	GM-2813-00	GM2713-00	GM3213-00
		GM-1712-00	GM-2113-00	GM-1913-00	GM-2013-00
		GT-1833-00	GT-2832-00	GT-2732-00	GT-3232-00
		GT-1835-00	GT-2834-00	GT-2734-00	GT-3234-00
		GT-1733-00	GT-2132-00	GT-1932-00	GT-2032-00
		GT-1735-00	GT-2134-00	GT-1934-00	GT-2034-00
Motor rated power	W	200			
Motor voltage	VDC	48			
Motor rated current	Arms	6.5			
Feedback		AqB, index, Halls, RS422 / Absolute Single turn			
Motor temperature sensor		PTC (NXP KTY-150)			
Brake voltage	VDC	24 ± 10%			
Brake power	W	7.4			
Holding torque	Nm	1.3			
Insulation class		B (130°C)			
Brake switching cycles B10 @ 0 rpm		500,000			
Gear nom. torque	Nm	10.8	12.9	17.3	21.6
Gear max. torque	Nm	24	41.5	55.4	69
Gear level of efficiency		0.92			
Gear ratio	i	10	12	16	20
Gear rated speed	rpm	300	250	188	150
Gear rated speed with Ø150 mm wheel	m/sec	2.35	1.97	1.48	1.18
Torque of motor mechanical brake at gear output	Nm	13	15.6	20.8	26
Gear max. radial force dynamic	N	2,250	4,500		
Gear max. axial force	N	1000	2,500		
Gear lifespan at nominal torque	h	20,000			
Weight	kg	3.2	4.7		
Operating temperature	°C	-10–40			
Protection class		IP54			

400W 48VDC Gearmotor Speed/Torque Curves

GM 1812-00, GM-1712-00, GT-1833-00, GT-1733-00, GT-1835-00, GT-1735-00

Gear output nom./max. torque:

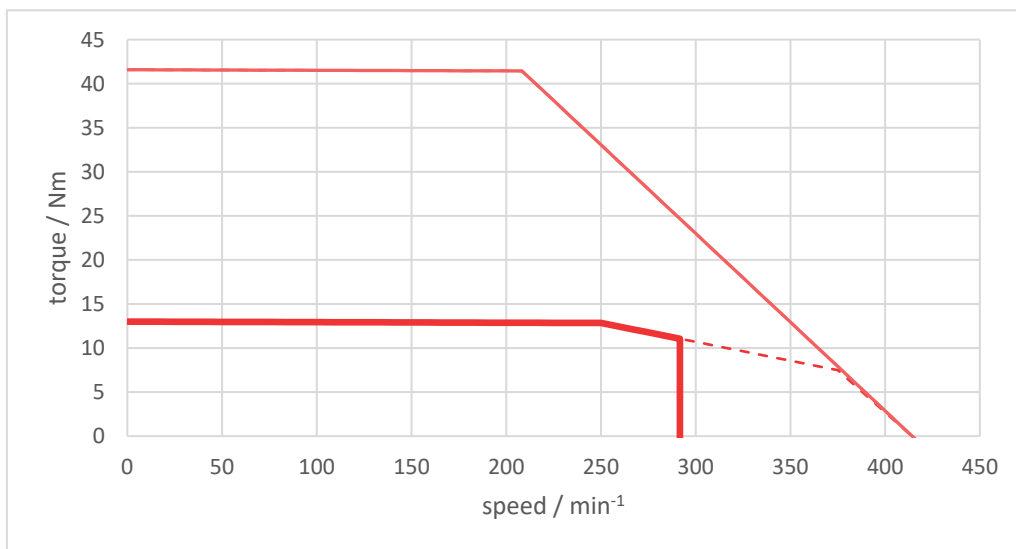
$i = 10$ 10.8/24 Nm



GM 2813-00, GM-2113-00, GT-2832-00, GT-2132-00, GT-2834-00, GT-2134-00

Gear output nom./max. torque:

$i = 12$ 12.9/41.5 Nm

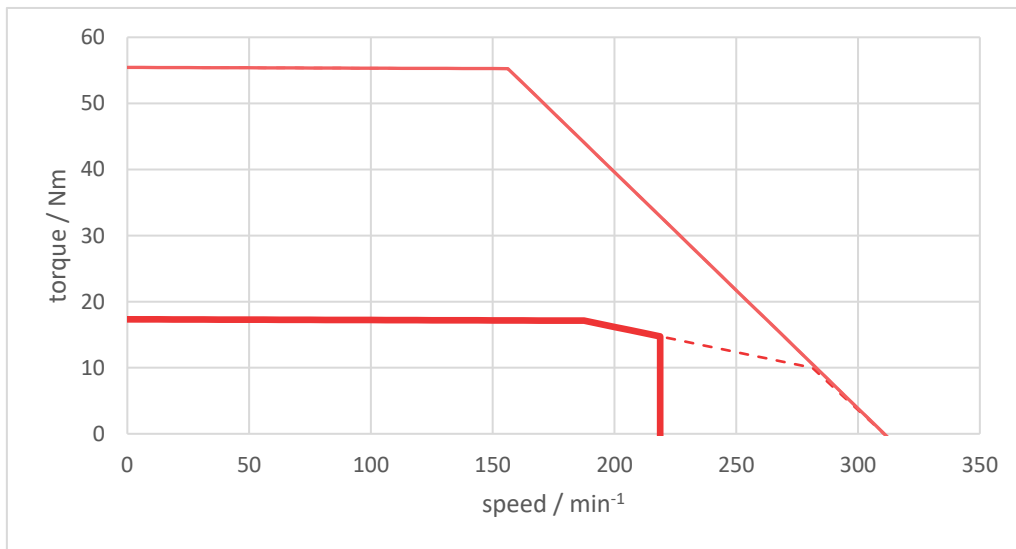


Mobile Motion System.

GM-2713-00, GM-1913-00, GT-2732-00, GT-1932-00, GT-2734-00, GT-1934-00

Gear output nom./max. torque:

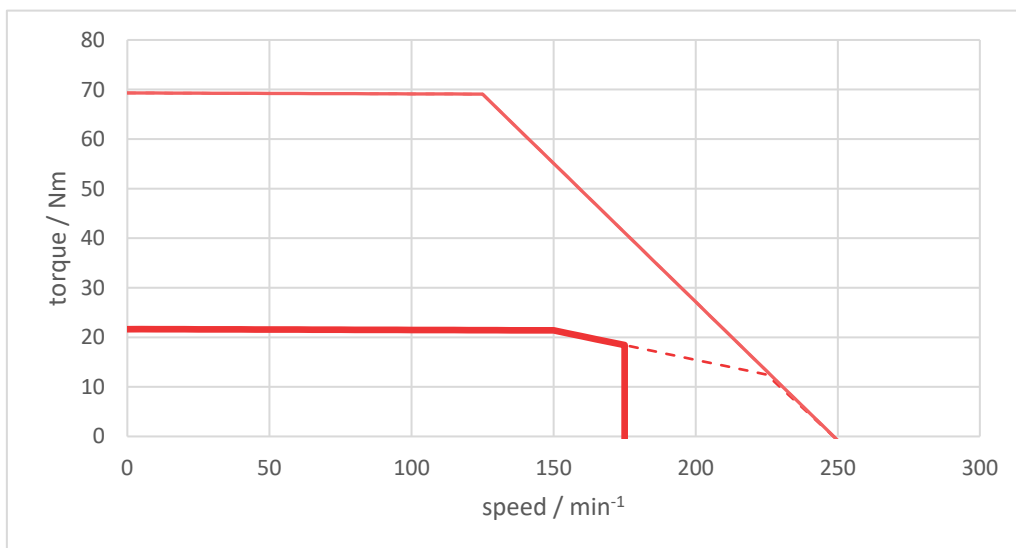
$i = 16$ 17.3/55.4 Nm



GM-3213-00, GM-2013-00, GT-3232-00, GT-2032-00, GT-3234-00, GT-2034-00

Gear output nom./max. torque:

$i = 20$ 21.6/69 Nm

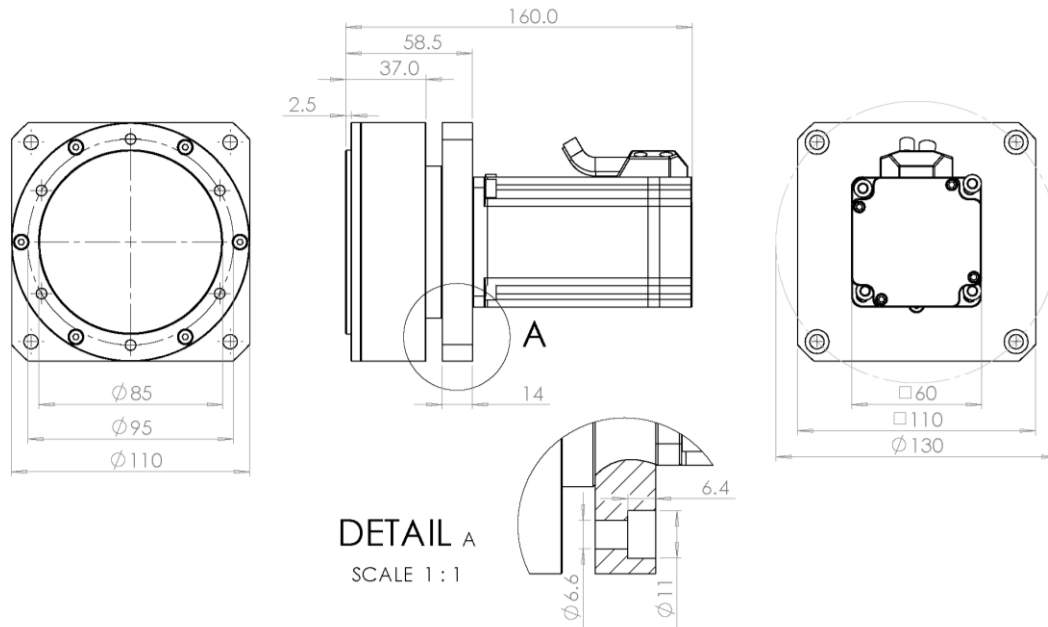


2.6 Dimensions – 400W 24/48VDC MOT-GM and TIM-GT

MOT-GM 400W 24/48VDC Axial Mounting

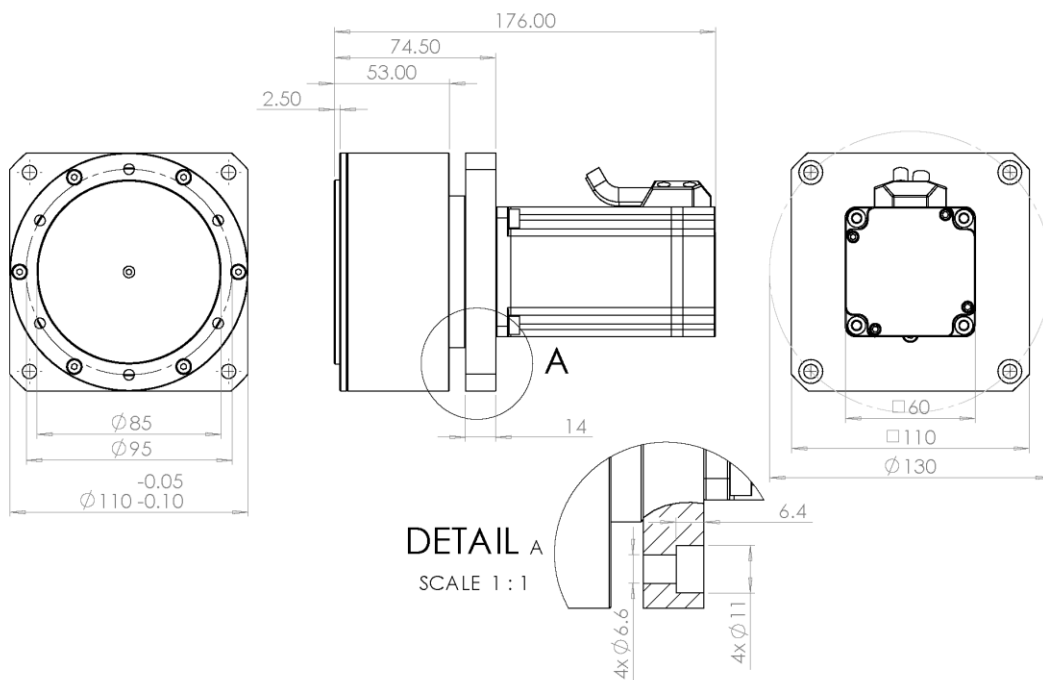
GM-1853-00, GM-1812-00

Ratio $i=10$



GM-2816-00, GM-2716-00, GM-3216-00, GM-2813-00, GM-2713-00, GM-3213-00

Ratio $i=12, 16, 20$

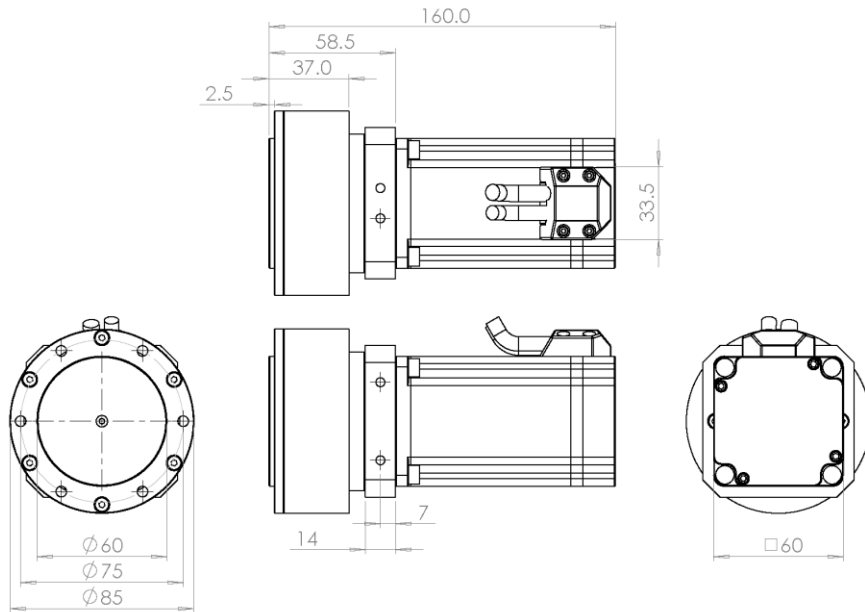


Mobile Motion System.

MOT-GM 400W 24/48VDC Radial Mounting

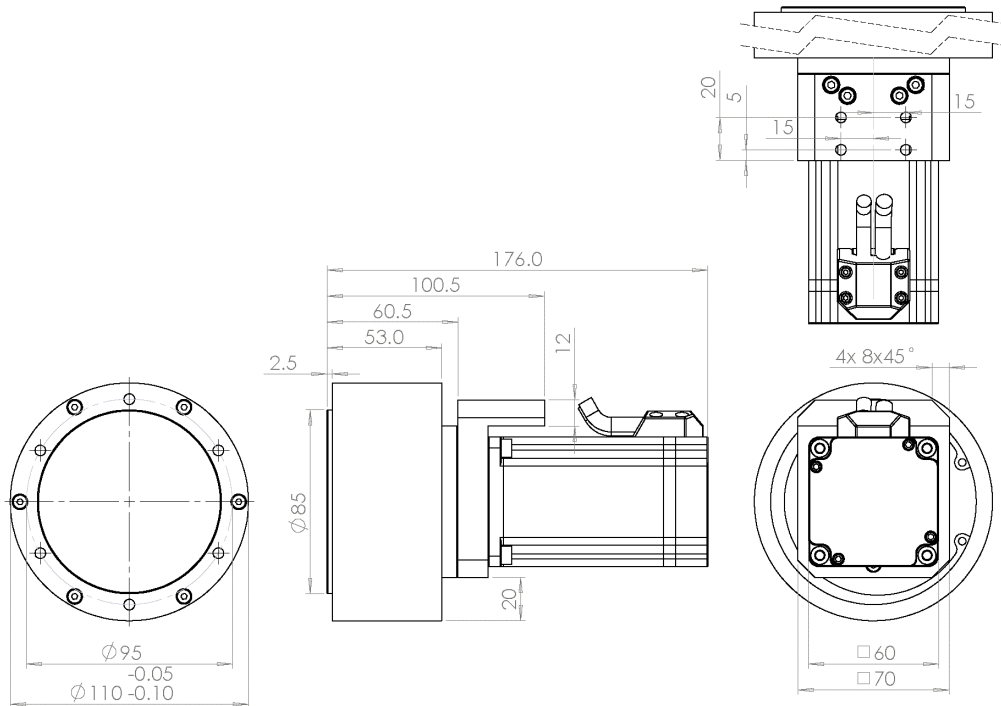
GM-1753-00, GM-1712-00

Ratio $i=10$



GM-2116-00, GM-1916-00, GM-2016-00, GM-2113-00, GM-1913-00, GM-2013-00

Ratio $i=12, 16, 20$

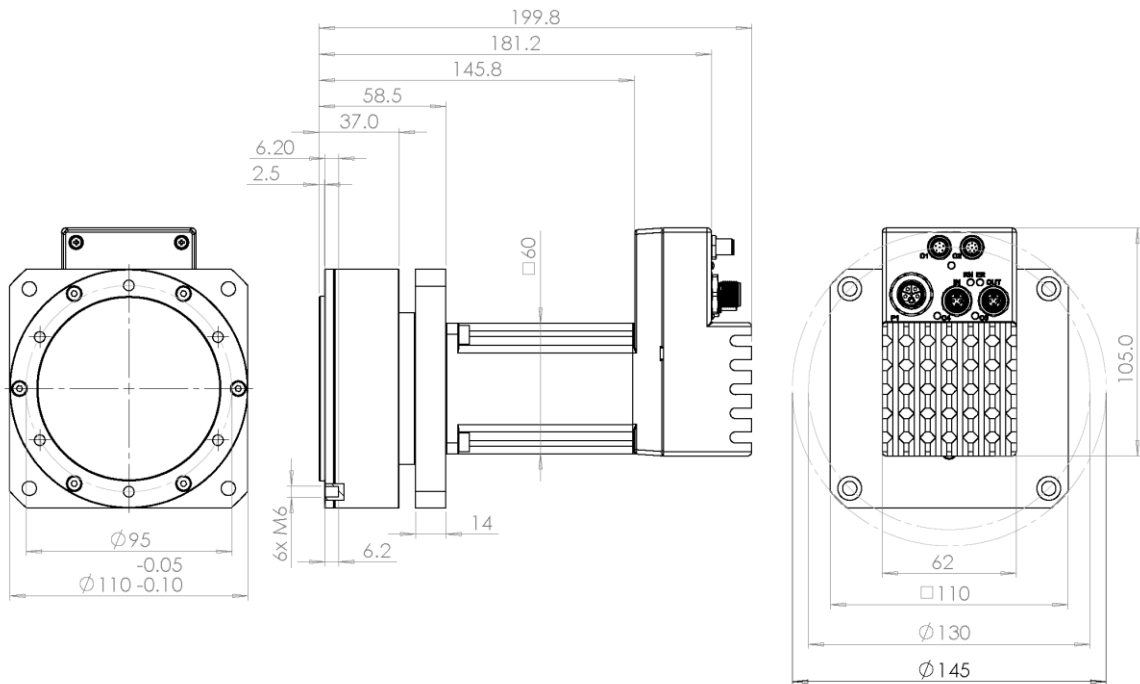


Mobile Motion System.

TIM-GT 400W 24/48VDC Axial Mounting

GT-1861-00, GT-1833-00, GT-1863-00, GT-1835-00

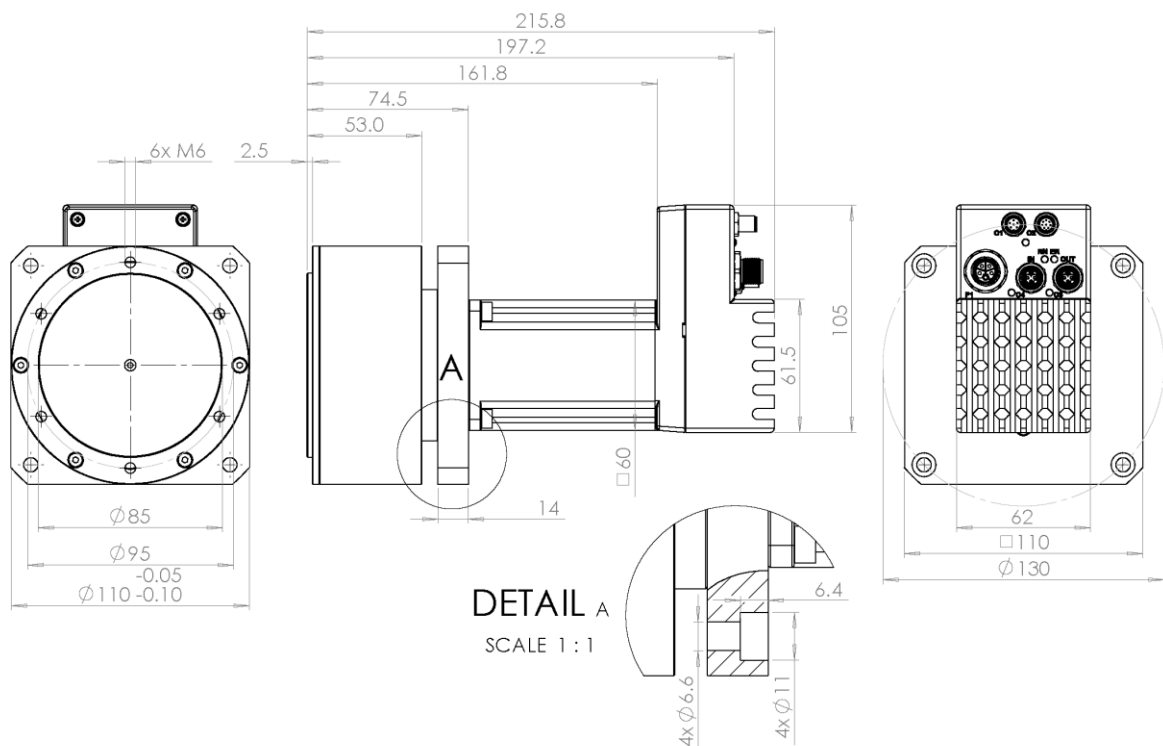
Ratio $i=10$



GT-2860-00, GT-2760-00, GT-3260-00, GT-2832-00, GT-2732-00, GT-3232-00

GT-2862-00, GT-2762-00, GT-3262-00, GT-2834-00, GT-2734-00, GT-3234-00

Ratio $i=12, 16, 20$

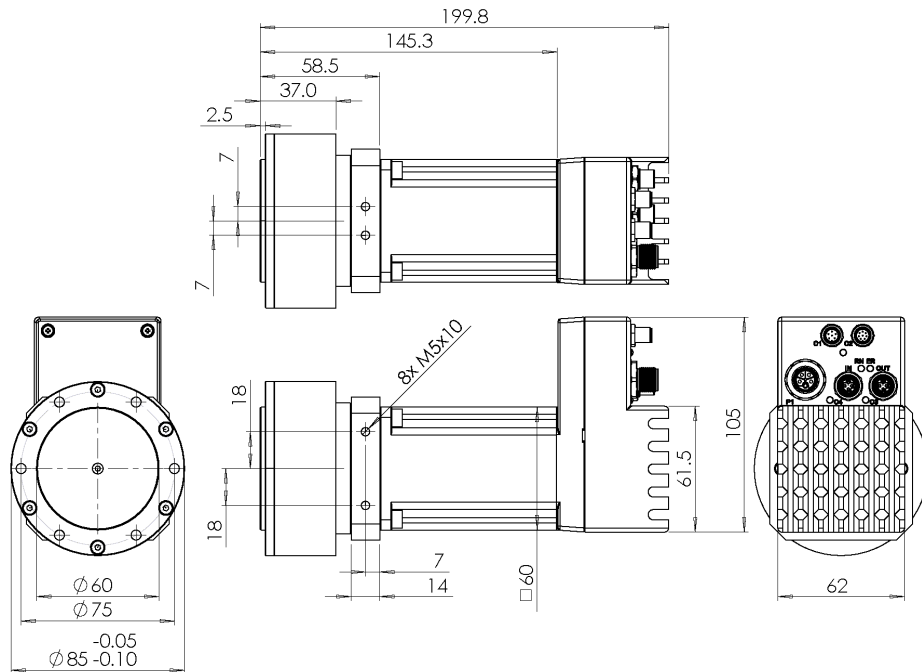


Mobile Motion System.

TIM-GT 400W 24/48VDC Radial Mounting

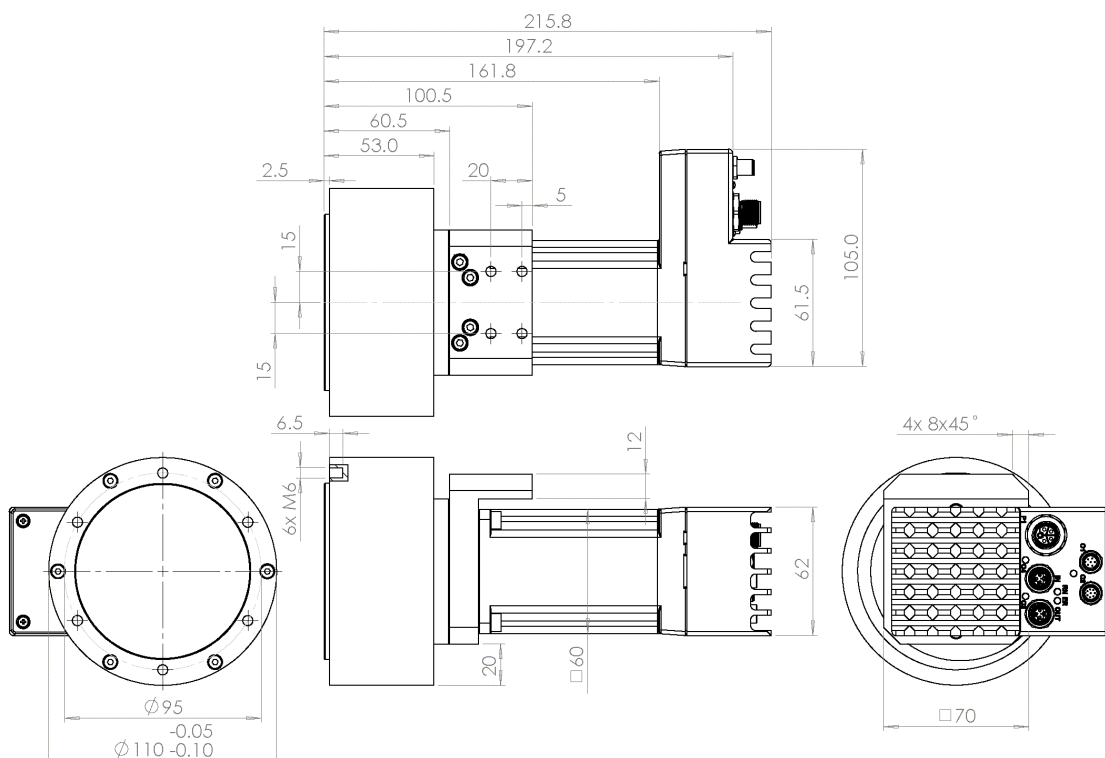
GT-1761-00, GM-1733-00, GT-1763-00, GM-1735-00

Ratio $i=10$



GT-2160-00, GM-1960-00, GM-2060-00, GM-2132-00, GM-1932-00, GM-2032-00,
GT-2162-00, GM-1962-00, GM-2062-00, GM-2134-00, GM-1934-00, GM-2034-00

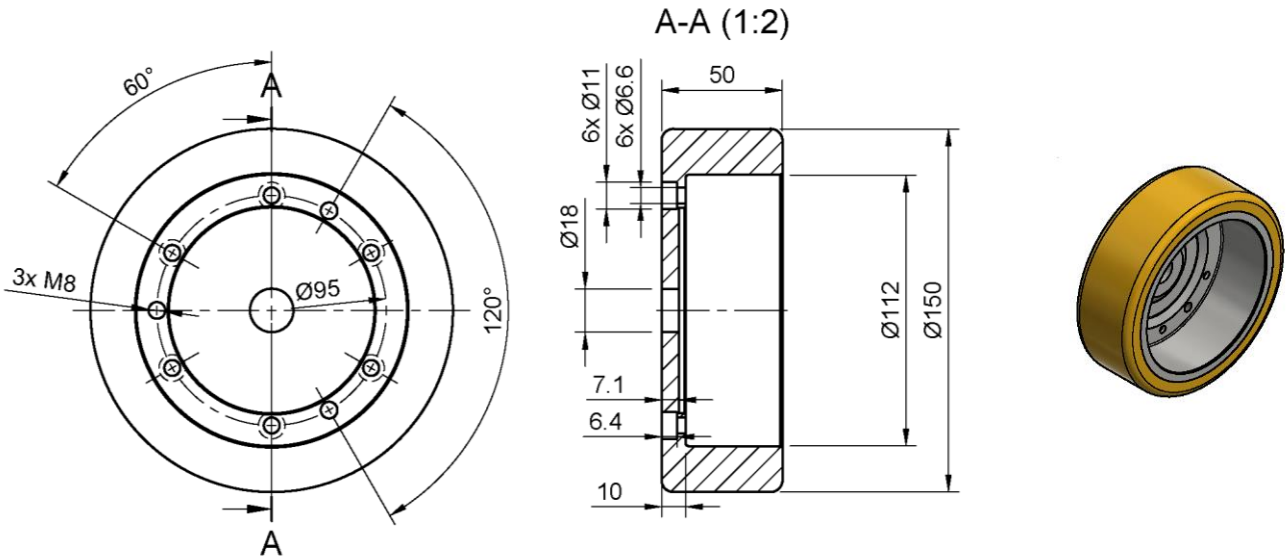
Ratio $i=12, 16, 20$



2.7 Wheel Specifications Ø 150mm

WHL-RAD50X150MM

Size	Ø 150 mm
Material	High-quality polyurethane elastomer
Hardness	93 Shore A
Weight	1.87kg

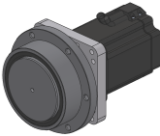


Additional wheels are available in various diameters and materials.
If you have a specific requirement, contact STXI Motion.


2.8 500W 24VDC MOT-GM

500W 24VDC Gearmotor Models

500W 24VDC MOT-GM Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	500 W	24VDC	22.5	GM-0807-00	SD01-030	WHL-RADVUL93200 Ø 200 mm
				GM-2307-00	SD01-030	WHL-RADVUL93165 Ø 165 mm

500W 24VDC MOT-GM Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	500 W	24VDC	22.5	GM-2507-00	SD01-030	WHL-RADVUL93200 Ø 200 mm
				GM-2407-00	SD01-030	WHL-RADVUL93165 Ø 165 mm

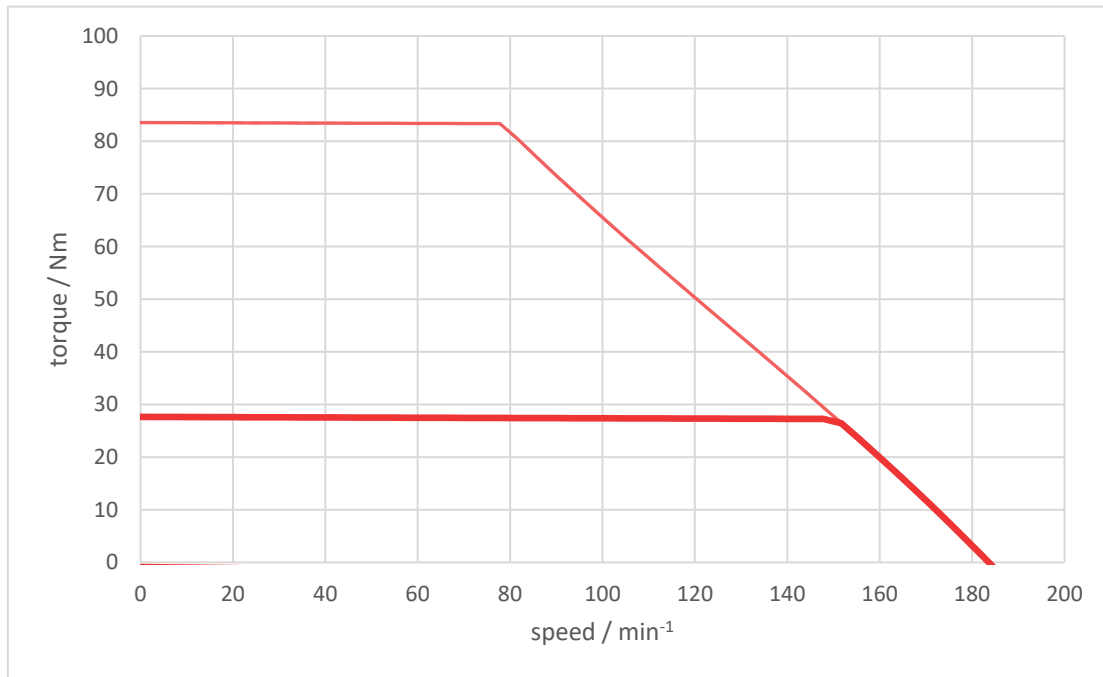
500W 24VDC Gearmotor Specifications

Feature	Units	GM-0807-00 GM-2307-00 GM-2507-00 GM-2407-00
Motor rated power	W	500
Motor voltage	VDC	24
Motor rated current	Arms	23
Feedback		AqB, index, Halls, RS422
Motor temperature sensor		PTC (NXP KTY-150)
Brake voltage	VDC	24 ± 10%
Brake power	W	13.5
Holding torque	Nm	4
Insulation class		B (130°C)
Brake switching cycles B10 @ 0 rpm		500,000
Gear nom. torque	Nm	28
Gear max. torque	Nm	84
Gear level of efficiency		0.95
Gear ratio	i	22.5
Gear rated speed	rpm	151
Gear rated speed with Ø200 mm wheel	m/sec (km/h)	1.58 (5.7)
Gear brake static torque	Nm	78
Gear max. radial force dynamic	N	8,000
Gear max. axial force	N	500
Gear lifespan at nominal torque	hr	20,000
Emergency stop torque	Nm	120
Weight	kg	7.3
Operating temperature	°C	-10–40
Protection class		IP54

500W 24VDC Gearmotors Speed/Torque Curves

GM-0807-00, GM-2307-00, GM-2507-00, GM-2407-00

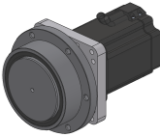
Gear output nom./max. torque: 28/84 Nm




2.9 500W 48VDC MOT-GM

500W 48VDC Gearmotor Models

500W 48VDC MOT-GM Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	500 W	48VDC	22.5	GM-0827-00	SD01-25	WHL-RADVUL93200 Ø 200 mm
				GM-2327-00	SD01-025	WHL-RADVUL93165 Ø 165 mm

500W 48VDC MOT-GM Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	500 W	48VDC	22.5	GM-2527-00	SD01-025	WHL-RADVUL93200 Ø 200 mm
				GM-2427-00	SD01-025	WHL-RADVUL93165 Ø 165 mm

500W 48VDC Gearmotor Specifications

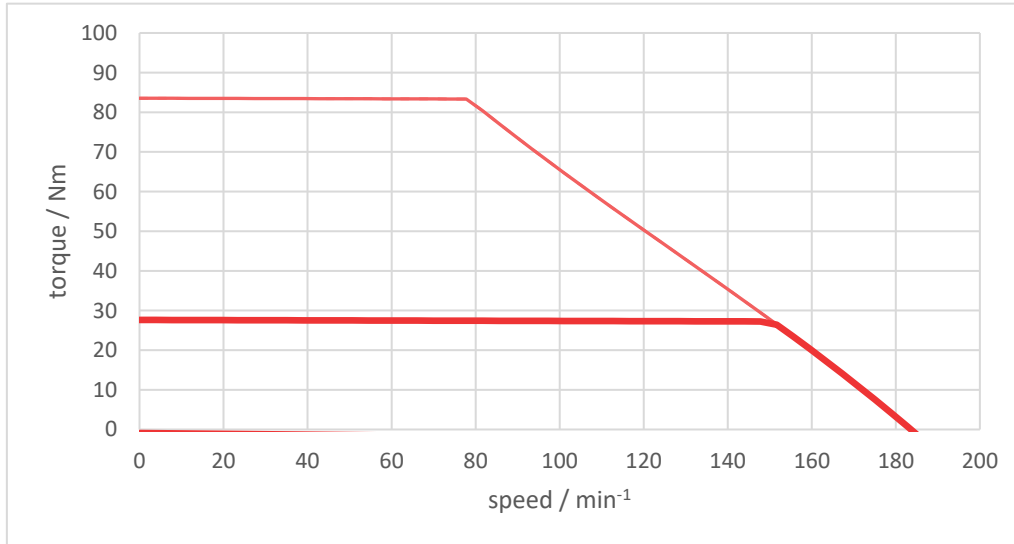
Feature	Units	GM-0827-00 GM-2327-00 GM-2527-00 GM-2427-00
Motor rated power	W	500
Motor voltage	VDC	48
Motor rated current	Arms	10.5
Feedback		AqB, index, Halls, RS422
Motor temperature sensor		PTC (NXP KTY-150)
Brake voltage	VDC	24 ± 10%
Brake power	W	13.5
Holding torque	Nm	4
Insulation class		B (130°C)
Brake switching cycles B10 @ 0 rpm		500,000
Gear nom. torque	Nm	28
Gear max. torque	Nm	84
Gear level of efficiency		0.92
Gear ratio	i	22.5
Gear rated speed	rpm	151
Gear rated speed with Ø200 mm wheel	m/sec (km/h)	1.58 (5.7)
Gear brake static torque	Nm	78
Gear max. radial force dynamic	N	8,000
Gear max. axial force	N	500
Gear lifespan at nominal torque	hr	20,000
Emergency stop torque	Nm	120
Weight	kg	7.3
Operating temperature	°C	-10–40
Protection class		IP54

500W 48VDC Gearmotors Speed/Torque Curves

GM-0827-00, GM-2327-00, GM-2527-00, GM-2427-00

Gear output nom./max. torque:

$i = 22.5$ 28/84 Nm

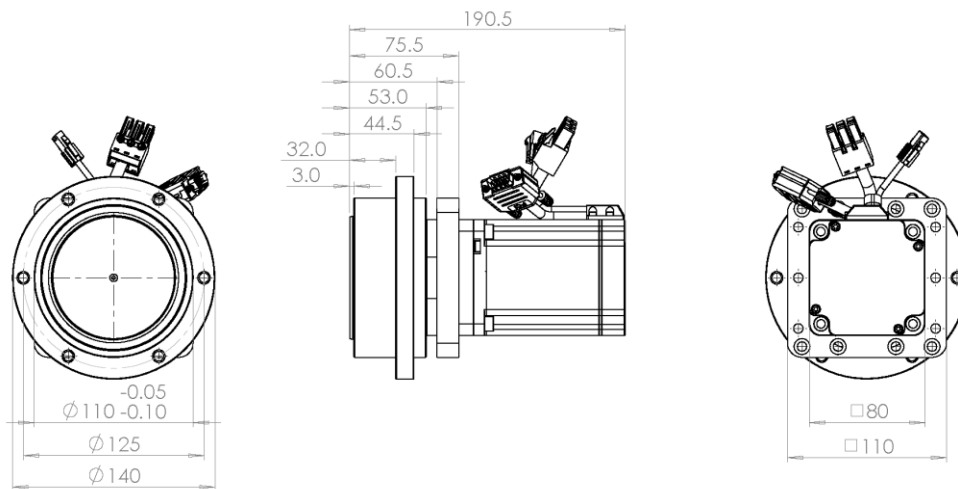


2.10 Dimensions – 500W 24/48VDC Dimensions MOT-GM

MOT-TIM 500W 24/48VDC Axial Mounting

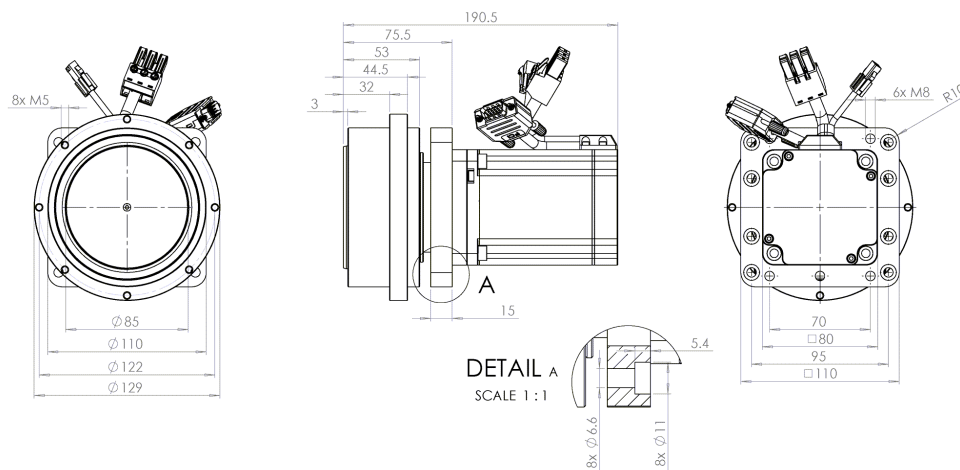
GM-0807-00, GM-0827-00

Ratio $i=22.5$



GM-2307-00, GM-2327-00

Ratio $i=22.5$

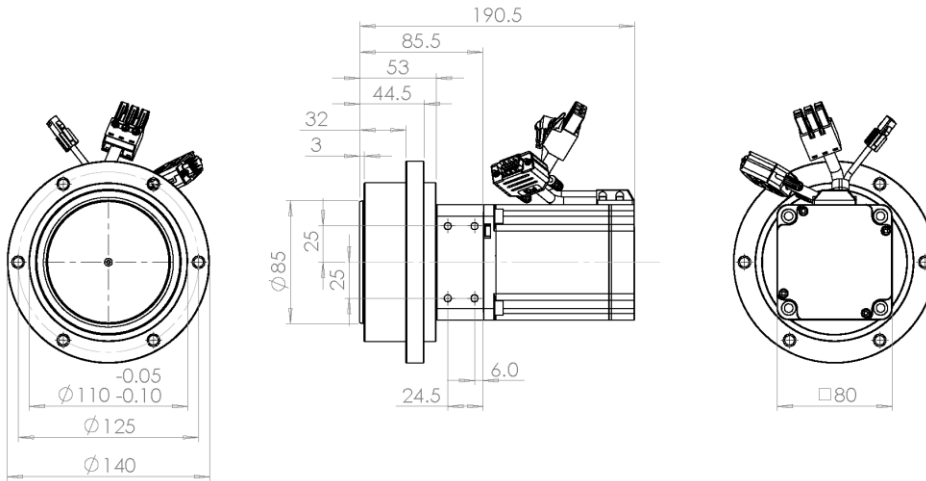


Mobile Motion System.

MOT-TIM 500W 24/48VDC Radial Mounting

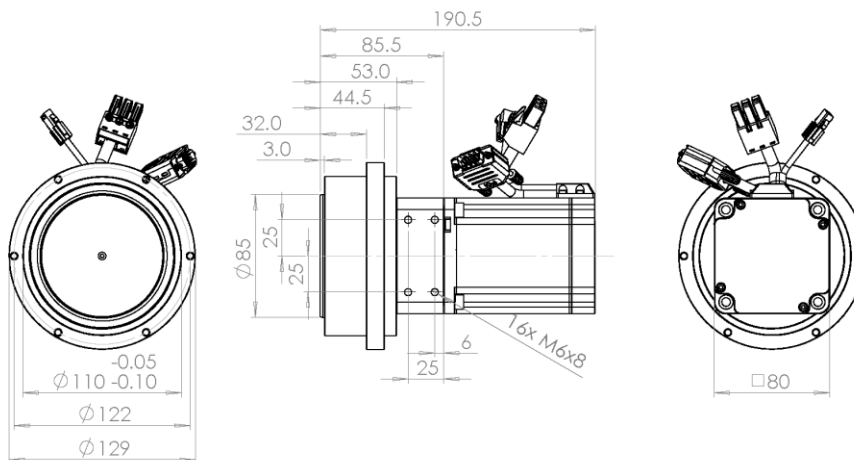
GM-2507-00, GM-2527-00

Ratio $i=22.5$



GM-2407-00, GM-2427-00


Ratio $i=22.5$




2.11 900W 24VDC MOT-GM

900W 24VDC Gearmotor Models

900W 24VDC MOT-GM Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	900 W	24VDC	22.5	GM-0828-00	SD01-030	WHL-RADVUL93200 Ø 200 mm
				GM-2328-00	SD01-030	WHL-RADVUL93165 Ø 165 mm

900W 24VDC MOT-GM Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	900 W	24VDC	22.5	GM-2528-00	SD01-030	WHL-RADVUL93200 Ø 200 mm
				GM-2428-00	SD01-030	WHL-RADVUL93165 Ø 165 mm

900W 24VDC Gearmotor Specifications

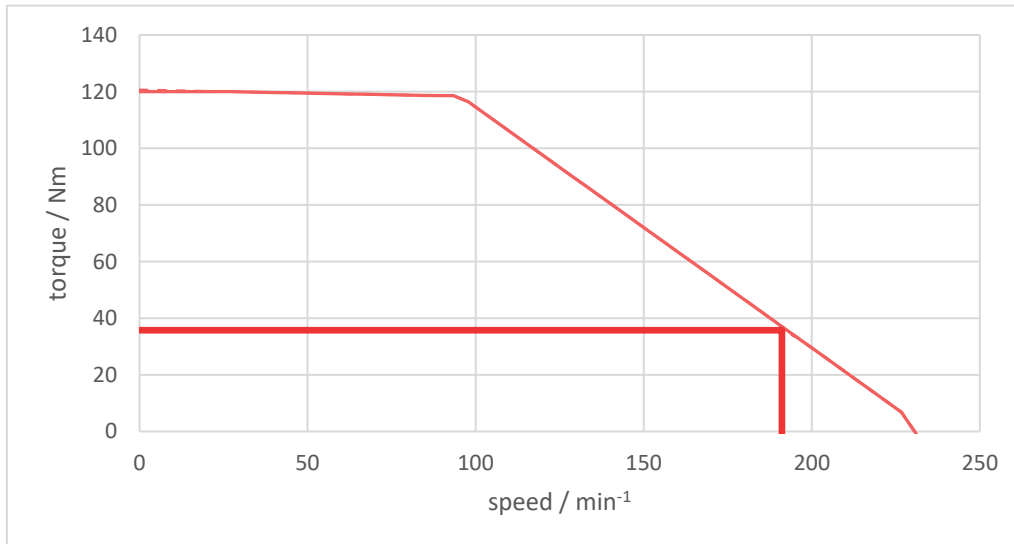
Feature	Units	GM-0828-00 GM-2328-00 GM-2528-00 GM-2428-00
Motor rated power	W	900
Motor voltage	VDC	24
Motor rated current	Arms	46
Feedback		AqB, index, Halls, RS422
Motor temperature sensor		PTC (NXP KTY-150)
Brake voltage	VDC	24 ± 10%
Brake power	W	13.5
Holding torque	Nm	4
Insulation class		B (130°C)
Brake switching cycles B10 @ 0 rpm		500,000
Gear nom. torque	Nm	36
Gear max. torque	Nm	120
Gear level of efficiency		0.92
Gear ratio	i	22.5
Gear rated speed	rpm	191
Gear rated speed with Ø200 mm wheel	m/sec (km/h)	2.0 (7.2)
Gear brake static torque	Nm	78
Gear max. radial force dynamic	N	8,000
Gear max. axial force	N	500
Gear lifespan at nominal torque	hr	20,000
Emergency stop torque	Nm	120
Weight	kg	8
Operating temperature	°C	-10–40
Protection class		IP54

900W 24VDC Gearmotors Speed/Torque Curves

GM-0828-00, GM-2328-00, GM-2528-00, GM-2428-00

Gear output nom./max. torque: 28/84 Nm


$i = 22.5$ 36/120 Nm




2.12 900W 48VDC MOT-GM

900W 48VDC Gearmotor Models

900W 48VDC MOT-GM Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	900 W	48VDC	22.5	GM-0808-00	SD01-025	WHL-RADVUL93200 Ø 200 mm
				GM-2308-00	SD01-025	WHL-RADVUL93165 Ø 165 mm

900W 48VDC MOT-GM Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	ZED drive	Wheel
	900 W	48VDC	22.5	GM-2508-00	SD01-025	WHL-RADVUL93200 Ø 200 mm
				GM-2408-00	SD01-025	WHL-RADVUL93165 Ø 165 mm

900W 48VDC Gearmotor Specifications

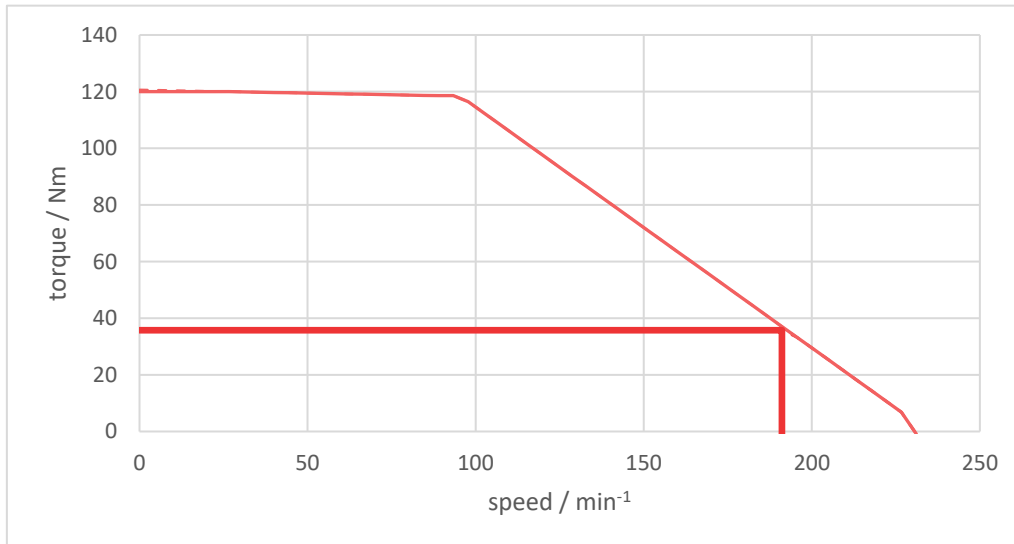
Feature	Units	GM-0808-00 GM-2308-00 GM-2508-00 GM-2408-00
Motor rated power	W	900
Motor voltage	VDC	48
Motor rated current	Arms	22
Feedback		AqB, index, Halls, RS422
Motor temperature sensor		PTC (NXP KTY-150)
Brake voltage	VDC	24 ± 10%
Brake power	W	13.5
Holding torque	Nm	4
Insulation class		B (130°C)
Brake switching cycles B10 @ 0 rpm		500,000
Gear nom. torque	Nm	36
Gear max. torque	Nm	120
Gear level of efficiency		0.95
Gear ratio	i	22.5
Gear rated speed	rpm	191
Gear rated speed with Ø200 mm wheel	m/sec (km/h)	2.0 (7.2)
Gear brake static torque	Nm	78
Gear max. radial force dynamic	N	8,000
Gear max. axial force	N	500
Gear lifespan at nominal torque	hr	20,000
Emergency stop torque	Nm	120
Weight	kg	8
Operating temperature	°C	-10–40
Protection class		IP54

900W 48VDC Gearmotors Speed/Torque Curves

GM-0808-00, GM-2308-00, GM-2508-00, GM-2408-00

Gear output nom./max. torque: 28/84 Nm

$i = 22.5$ 36/120 Nm

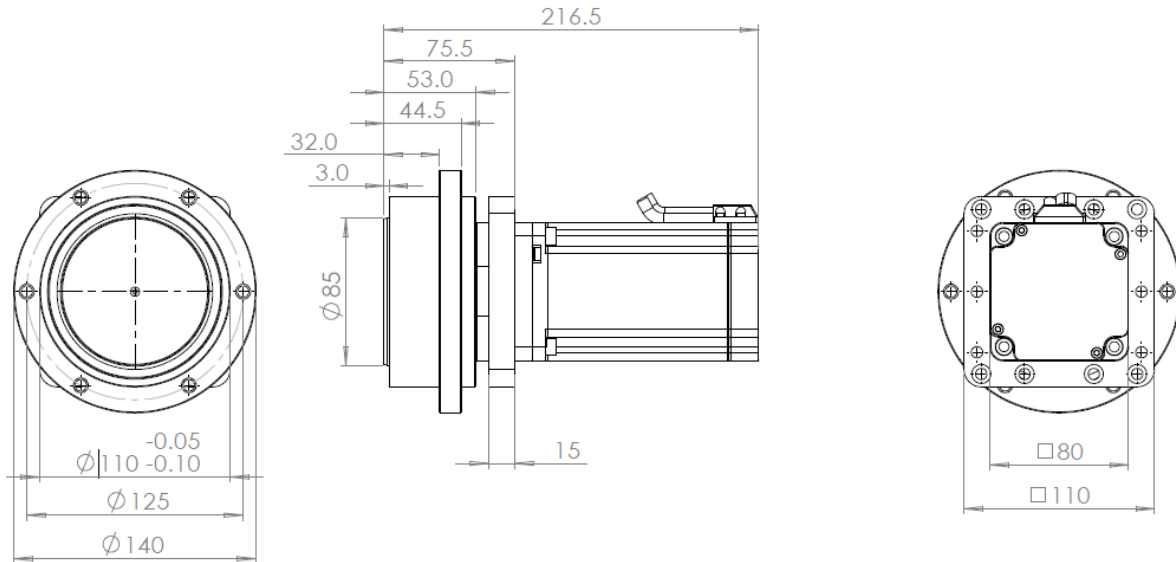


2.13 Dimensions – 900W 24/48VDC MOT-GM

MOT-GM 900W 24/48VDC Axial Mounting

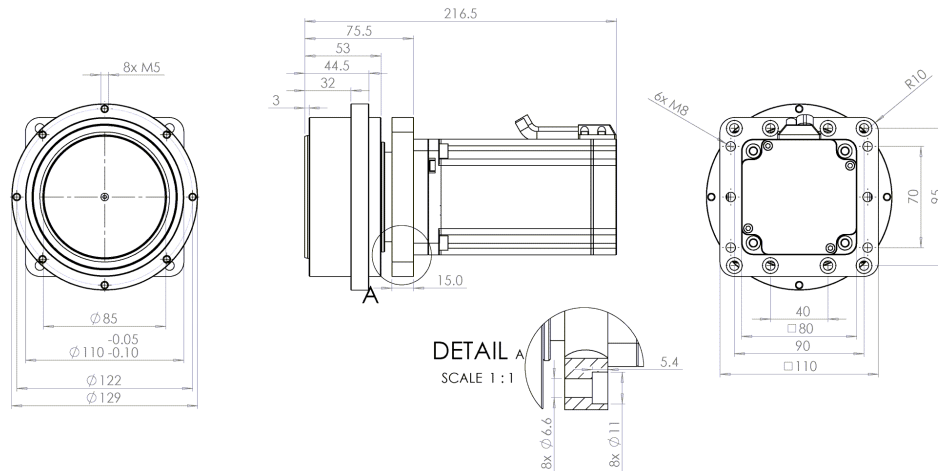
GM-0828-00, GM-0808-00

Ratio $i=22.5$



GM-2328-00, GM-2308-00

Ratio $i=22.5$

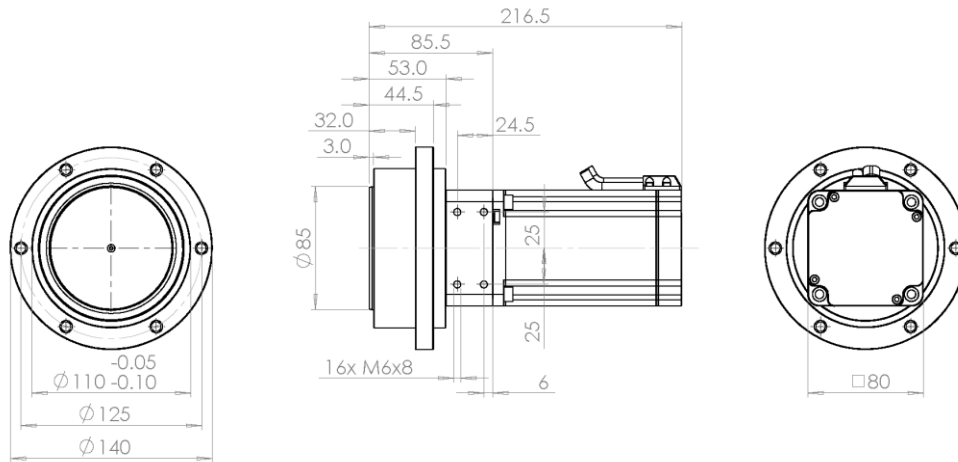


Mobile Motion System.

MOT-GM 900W 24/48VDC Radial Mounting

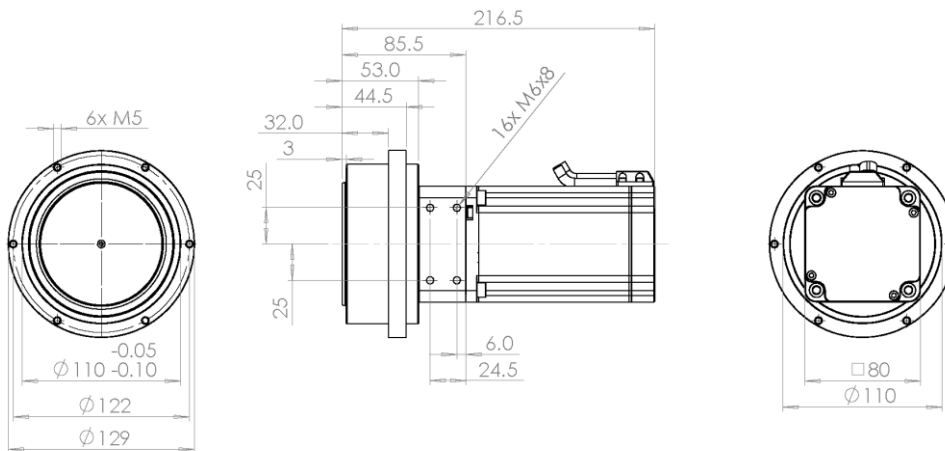
GM-2528-00, GM-2508-00

Ratio $i=22.5$



GM-2428-00, GM-2408-00

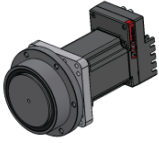
Ratio $i=22.5$



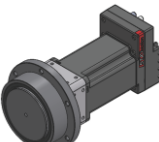
2.14 480W 48VDC TIM-GT

480W 48VDC Gearmotor Models

480 W 48VDC TIM-GT Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	480 W	48VDC	22.5	GT-0840-00	EtherCAT	WHL-RADVUL93200
				GT-0841-00	CANopen	Ø 200 mm
				GT-2340-00	EtherCAT	WHL-RADVUL93165
				GT-2341-00	CANopen	Ø 165 mm

480 W 48VDC TIM-GT Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	480 W	48VDC	22.5	GT-2540-00	EtherCAT	WHL-RADVUL93200
				GT-2541-00	CANopen	Ø 200 mm
				GT-2440-00	EtherCAT	WHL-RADVUL93165
				GT-2441-00	CANopen	Ø 165 mm

480W 48VDC Gearmotor Specifications

Feature	Units	GT-0840-00	GT-0841-00
		GT-2340-00	GT-2341-00
		GT-2540-00	GT-2541-00
		GT-2440-00	GT-2441-00
Motor rated power	W	800	
Motor voltage	VDC	48	
Motor rated current	Arms	14.6	
Feedback		Absolute single turn	
Motor temperature sensor		PTC (NXP KTY-150)	
Brake voltage	VDC	24 ± 10%	
Brake power	W	13.5	
Holding torque	Nm	4	
Insulation class		B (130°C)	
Brake switching cycles B10 @ 0 rpm		500,000	
Gear nom. torque	Nm	29	
Gear max. torque	Nm	92	
Gear level of efficiency		0.92	
Gear ratio	i	22.5	
Gear rated speed	rpm	133	
Gear rated speed with Ø200 mm wheel	m/sec (km/h)	1.39 (5.0)	
Gear brake static torque	Nm	78	
Gear max. radial force dynamic	N	8,000	
Gear max. axial force	N	500	
Gear lifespan at nominal torque	hr	20,000	
Weight	kg	4.2+Tim	
Operating temperature	°C	-10–40	
Protection class		IP54	

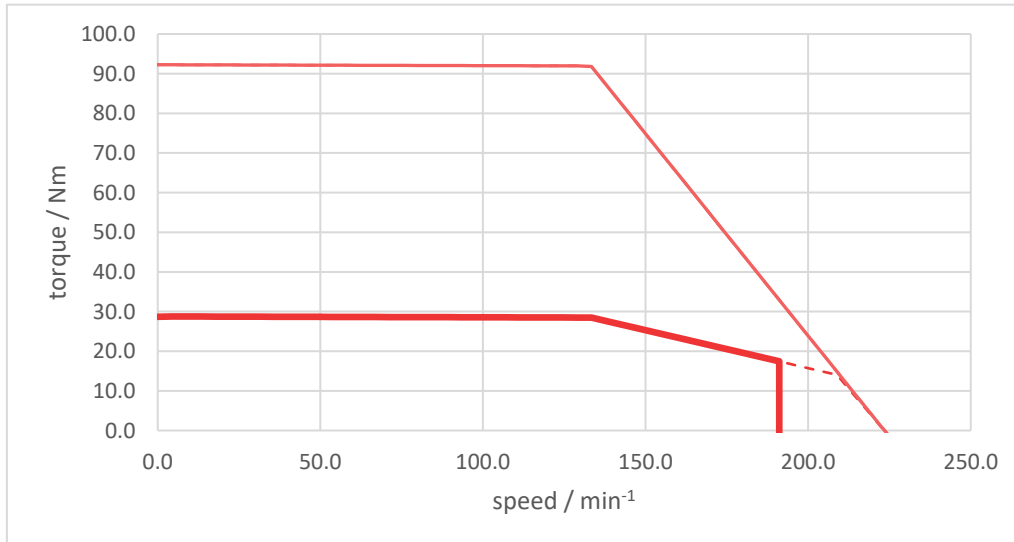
480W 48VDC Gearmotors Speed/Torque Curves

GT-0840-00, GT-2340-00, GT-2540-00, GT-2440-00

GT-0841-00, GT-2341-00, GT-2541-00, GT-2441-00

Gear output nom./max. torque:

$i = 22.5$ 29/92 Nm

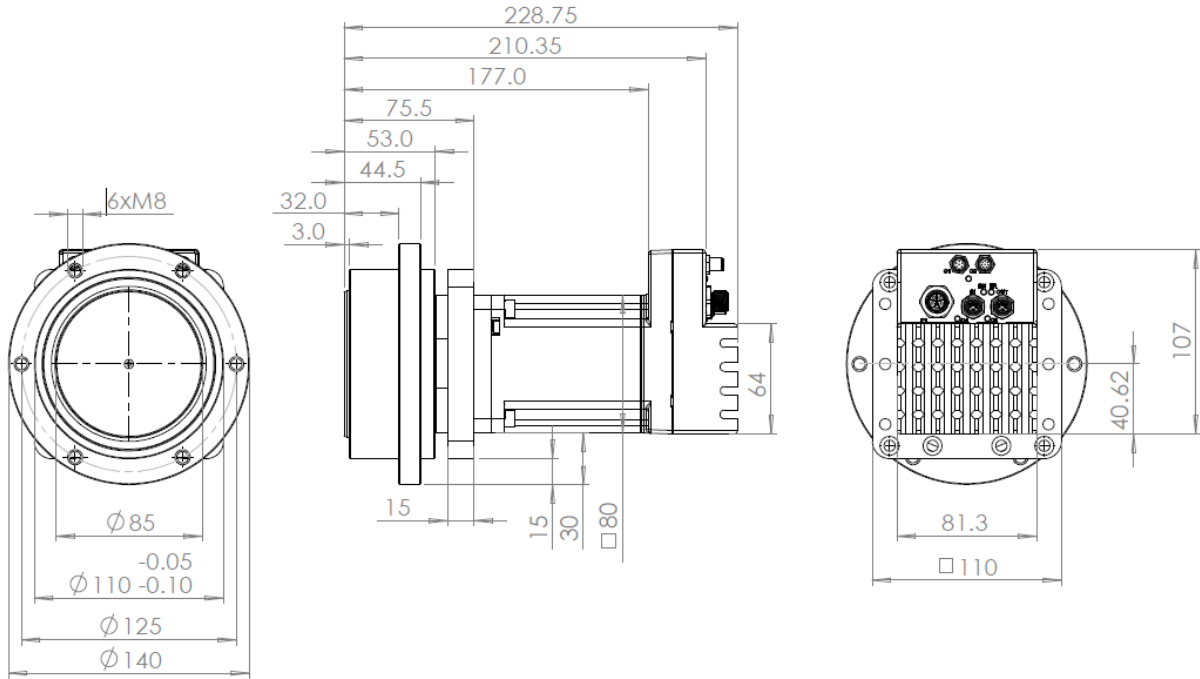


2.15 Dimensions – 480W 48VDC Gearmotor TIM-GT

TIM-GT 480W 48VDC Axial Mounting

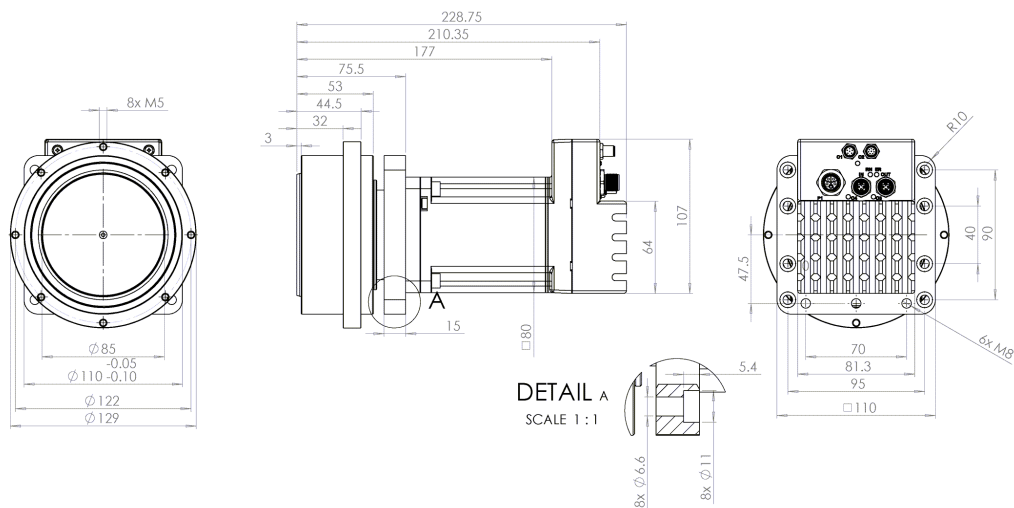
GT-0840-00, GT-0841-00

Ratio $i=22.5$



GT-2340-00

Ratio $i=22.5$

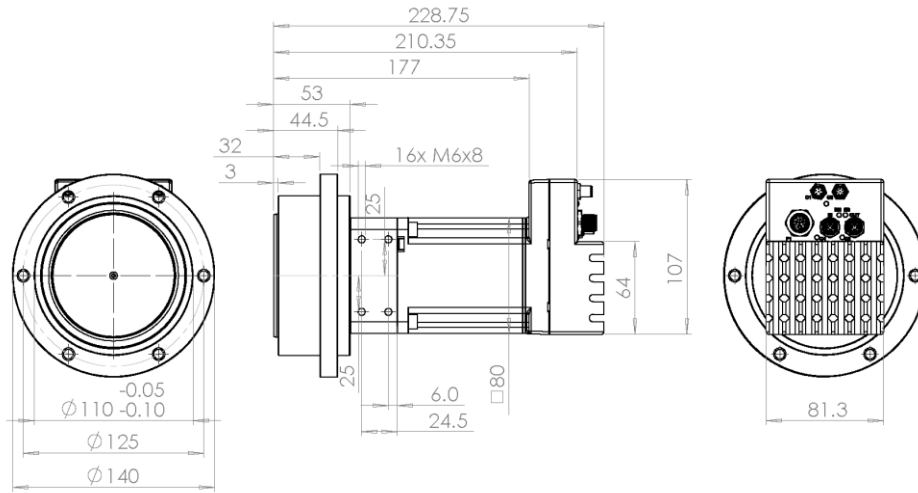


Mobile Motion System.

TIM-GT 480W 48VDC Radial Mounting

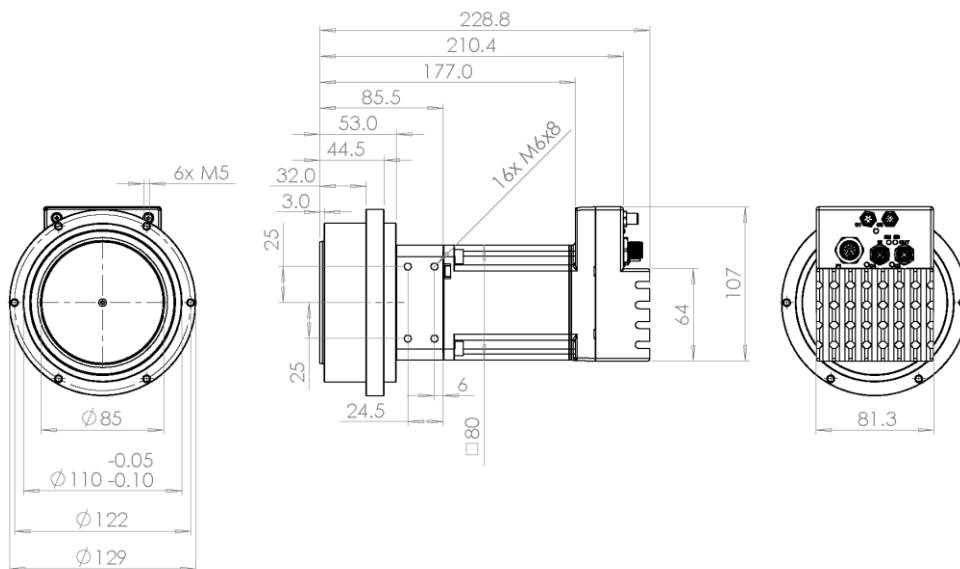
GT-2540-00, GT-2541-00

Ratio $i=22.5$



GT-2440-00, GT-2441-00

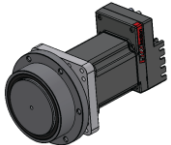
Ratio $i=22.5$



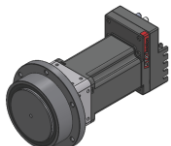
2.16 800W 48VDC TIM-GT

800W 48VDC Gearmotors

800W 48VDC TIM-GT Axial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	800 W	48VDC	22.5	GT-0844-00	EtherCAT	WHL-RADVUL93200
				GT-0845-00	CANopen	Ø 200 mm
				GT-2344-00	EtherCAT	WHL-RADVUL93165
				GT-2345-00	CANopen	Ø 165 mm

800W 48VDC TIM-GT Radial Mounting

	Power	Voltage	Gear ratio	Gearmotor	Fieldbus	Wheel
	800 W	48VDC	22.5	GT-2544-00	EtherCAT	WHL-RADVUL93200
				GT-2545-00	CANopen	Ø 200 mm
				GT-2444-00	EtherCAT	WHL-RADVUL93165
				GT-2445-00	CANopen	Ø 165 mm

800W 48VDC Gearmotor Specifications

Feature	Units	GT-0844-00	GT-0845-00
		GT-2344-00	GT-2345-00
		GT-2544-00	GT-2545-00
		GT-2444-00	GT-2445-00
Motor rated power	W	800	
Motor voltage	VDC	48	
Motor rated current	Arms	22	
Feedback		Absolute single turn	
Motor temperature sensor		PTC (NXP KTY-150)	
Brake voltage	VDC	24 ± 10%	
Brake power	W	13.5	
Holding torque	Nm	4	
Insulation class		B (130°C)	
Brake switching cycles B10 @ 0 rpm		500,000	
Gear nom. torque	Nm	45	
Gear max. torque	Nm	120	
Gear level of efficiency		0.92	
Gear ratio	i	22.5	
Gear rated speed	rpm	133	
Gear rated speed with Ø200 mm wheel	m/sec (km/h)	1.39 (5.0)	
Gear brake static torque	Nm	78	
Gear max. radial force dynamic	N	8,000	
Gear max. axial force	N	500	
Gear lifespan at nominal torque	hr	20,000	
Weight	kg	4.2 +TIM	
Operating temperature	°C	-10–40	
Protection class		IP54	

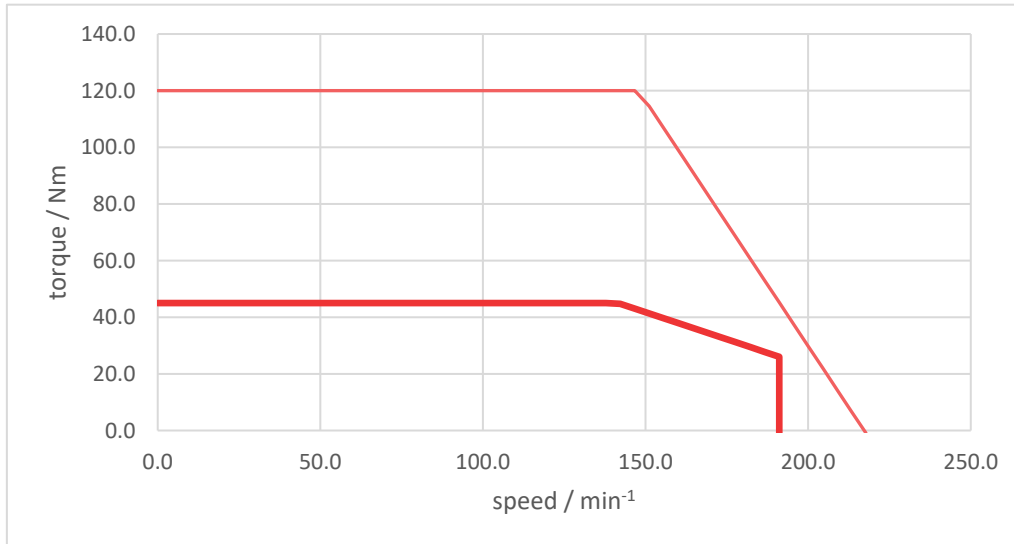
800W 48VDC Gearmotors Speed/Torque Curves

GT-0844-00, GT-2344-00, GT-2544-00, GT-2444-00

GT-0845-00, GT-2345-00, GT-2545-00, GT-2445-00

Gear output nom./max. torque:

$i = 22.5$ 45/120 Nm

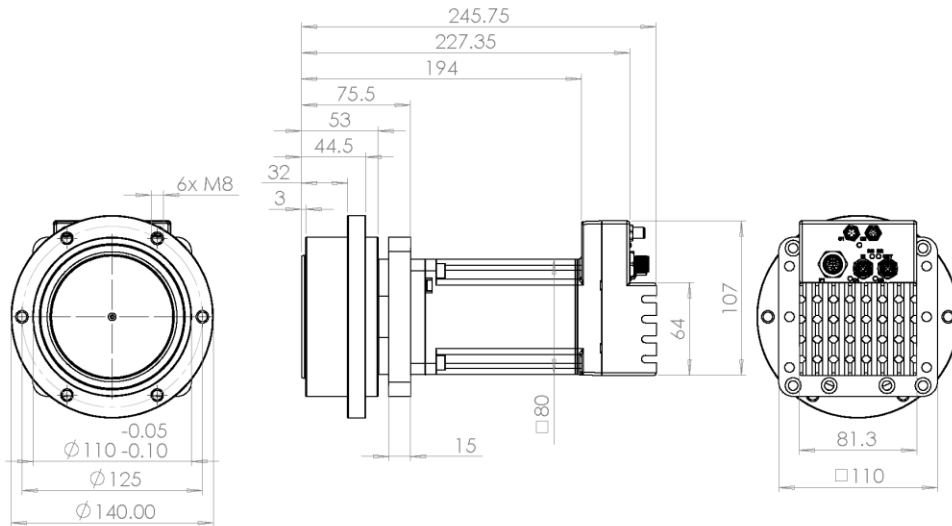


2.17 Dimensions – 800W 48VDC Gearmotor

TIM-GT 800W 48VDC Axial Mounting

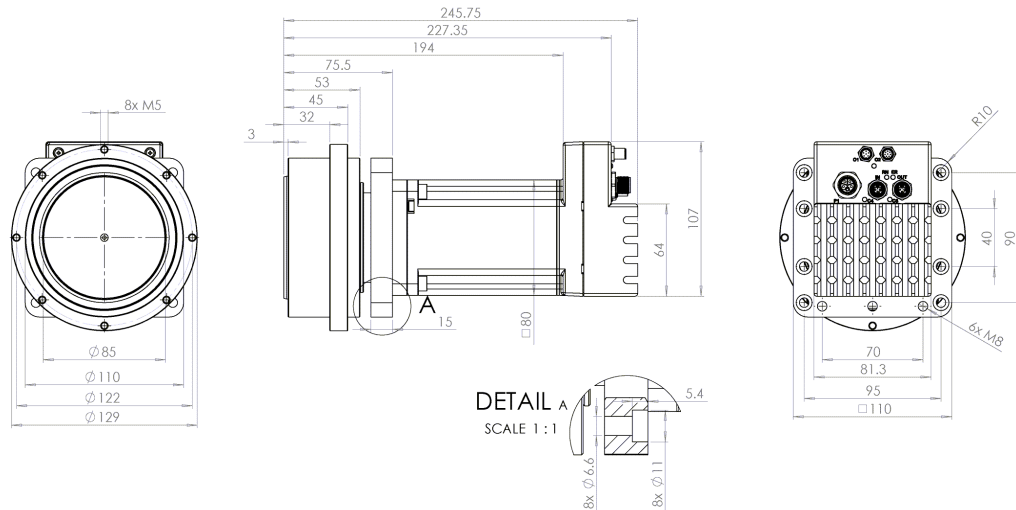
GT-0844-00, GT-0845-00

Ratio $i=22.5$



GT-2344-00

Ratio $i=22.5$

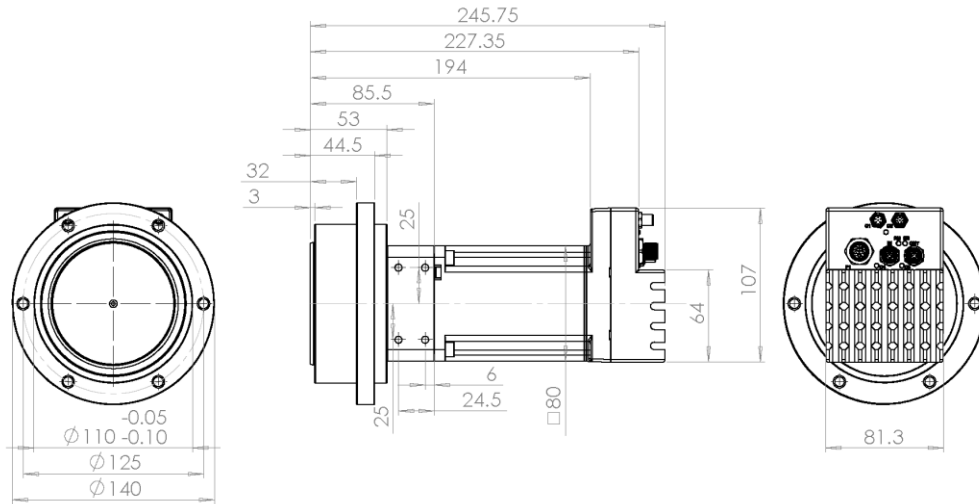


Mobile Motion System.

TIM-GT 800W 48VDC Radial Mounting

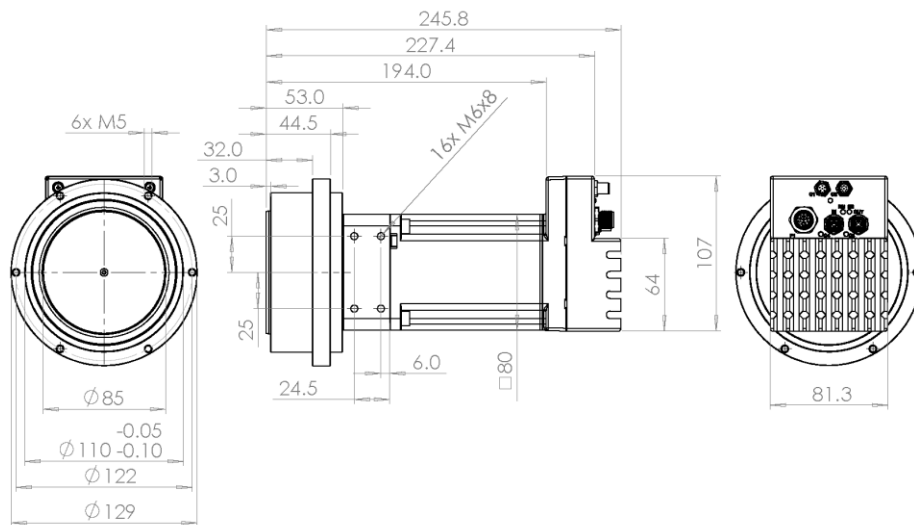
GT-2544-00, GT-2545-00

Ratio $i=22.5$



GT-2444-00, GT-2445-00

Ratio $i=22.5$



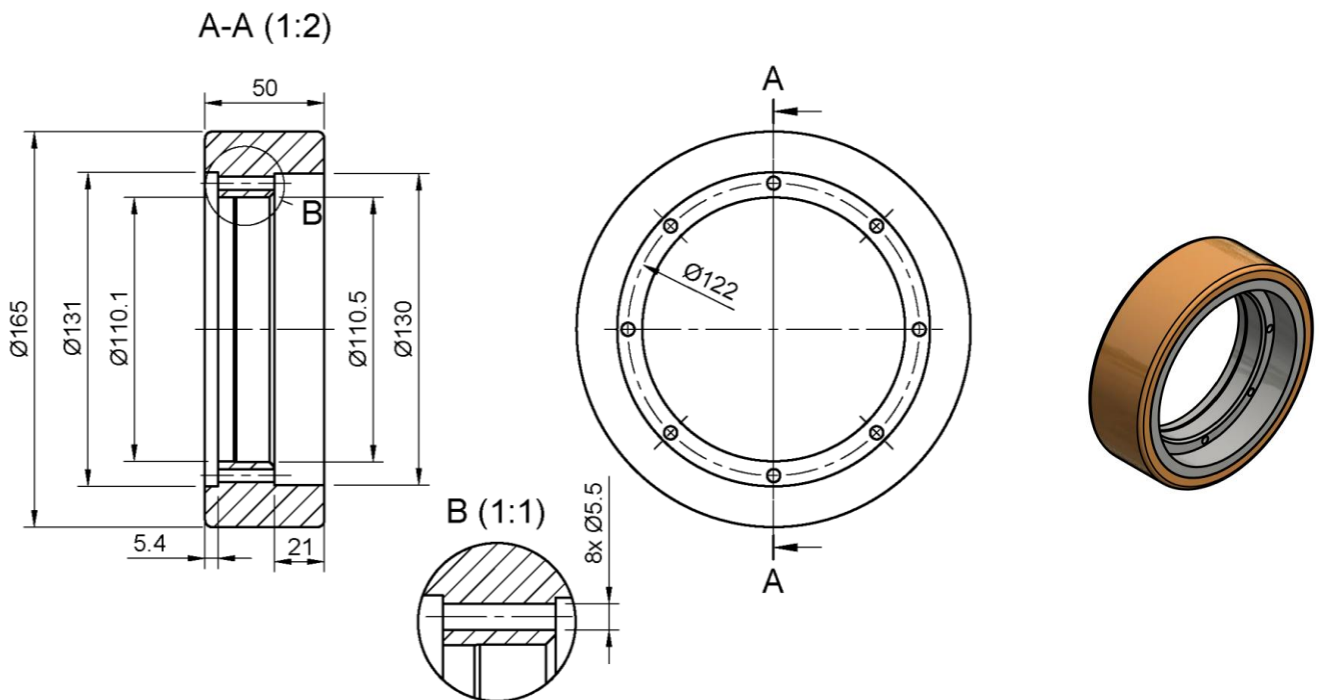
2.18 Wheel Specifications Ø165 mm and Ø200 mm

*Note: Gearmotors 500W and 900W use the same wheel as gearmotors 480W and 800W.
See below for wheel specifications.*

Additional wheels are available in various diameters and materials.
If you have a specific requirement, contact STXI Motion.

WHL-RADVUL93165

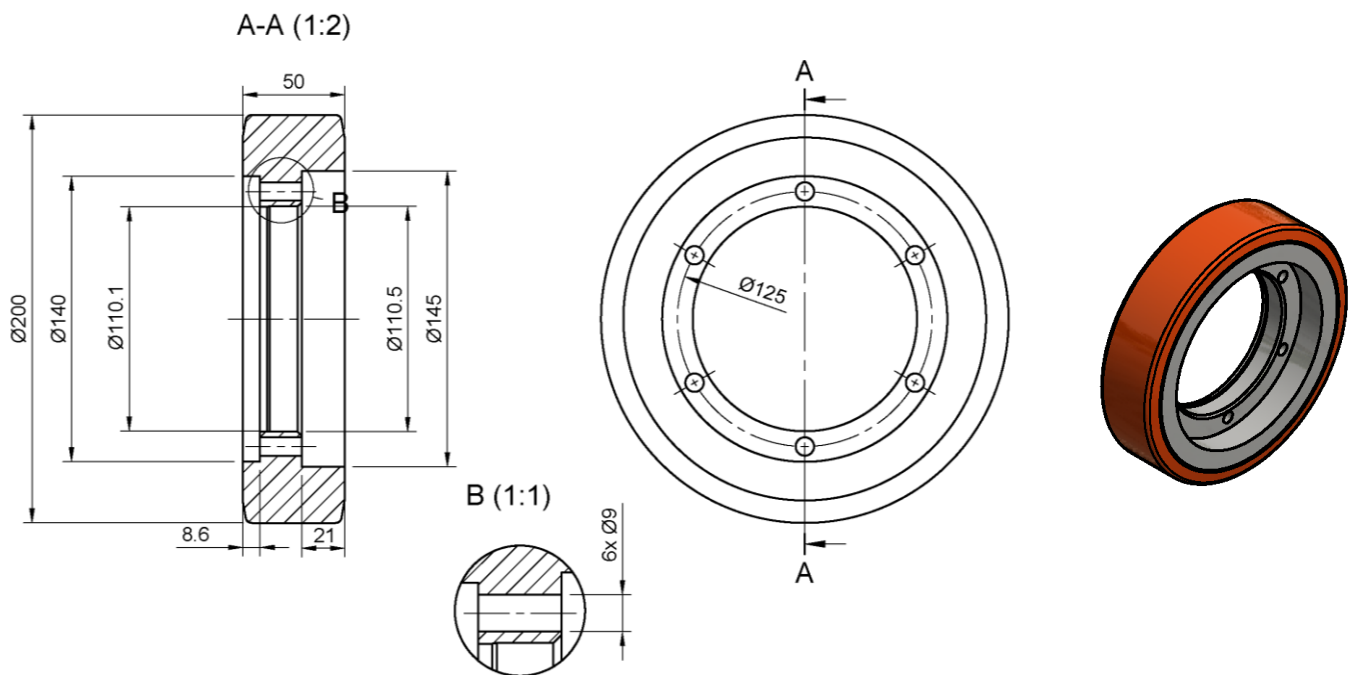
Size	Ø 165 mm
Material	VULKOLLAN®
Hardness	93 Shore A
Weight	2.29 kg





Mobile Motion System.

WHL-RADVUL93165

Size	Ø 200 mm
Material	VULKOLLAN®
Hardness	93 Shore A
Weight	4.95 kg




3. TIM Integrated Servo Motors

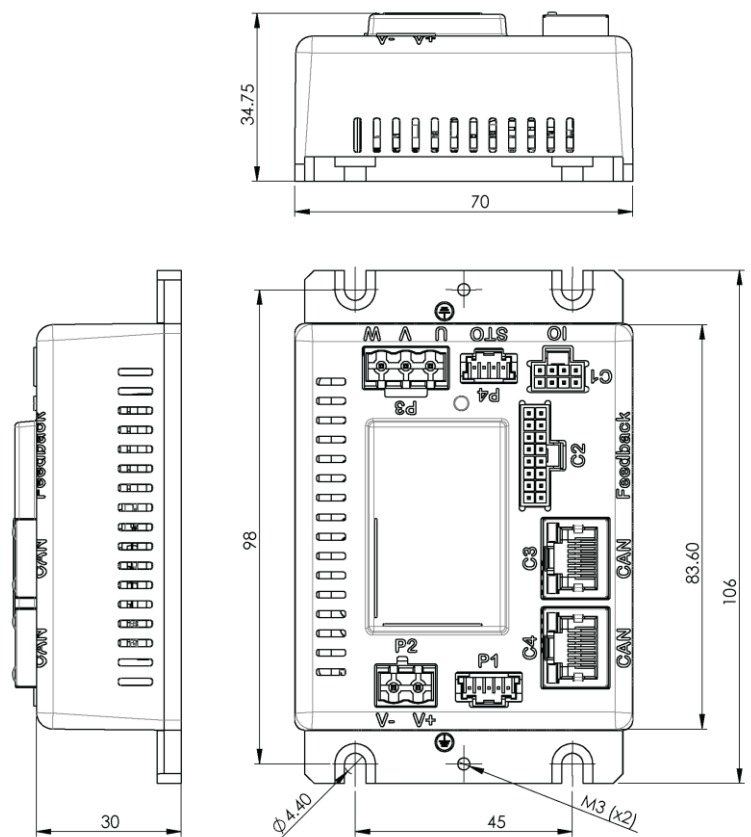
Servo Drive	Product Model	Main Features
	IM1-60S – 200 W	Input bus: 48VDC Continuous current: 6.50 Arms
	IM1-60M – 400 W	Input bus: 48VDC Continuous current: 12.00 Arms
	IM1-80S – 480 W	Input bus: 48VDC Continuous current: 14.60 Arms
	IM1-80M – 800 W	Input bus: 48VDC Continuous current: 22.00 Arms
		P1: Power C1: 3x Digital input, 1x Digital output C2: STO, Brake, RS232 C3: CANopen / EtherCAT – OUT C4: CANopen / EtherCAT – IN Feedback: Absolute single turn encoder Protection: IP54
	<i>For details, refer to the TIM datasheet</i>	

4. ZED Servo Drives

SD01-015



Servo Drive	Product Model	Main Features
	ZED SD01-015	Input bus: 24VDC Input logic: 24VDC Continuous current: 12/14.4(*) Arms Peak current: 40 Arms CANopen Encoder 12-bit incremental, RS422 communication, differential quadrature, index pulse, single-ended Halls STO IP20 3x digital input 1x digital output 1x analog input (*) with heatsink
Mating connectors		For details, refer to the <i>ZED User Manual</i>

Feature	Specification
Mounting	brick
Weight	kg 0.3
Dimensions (LxWxH)	mm 70 x 106 x 34.75

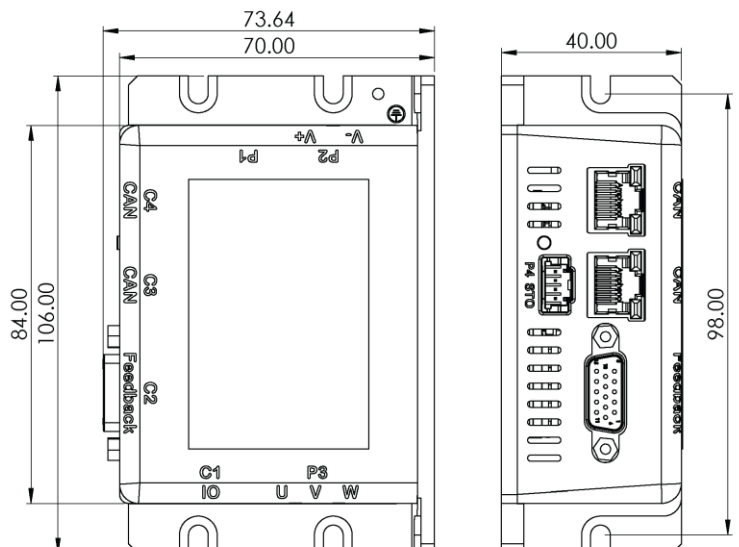


Mobile Motion System.

SD01-025 | SD01-030

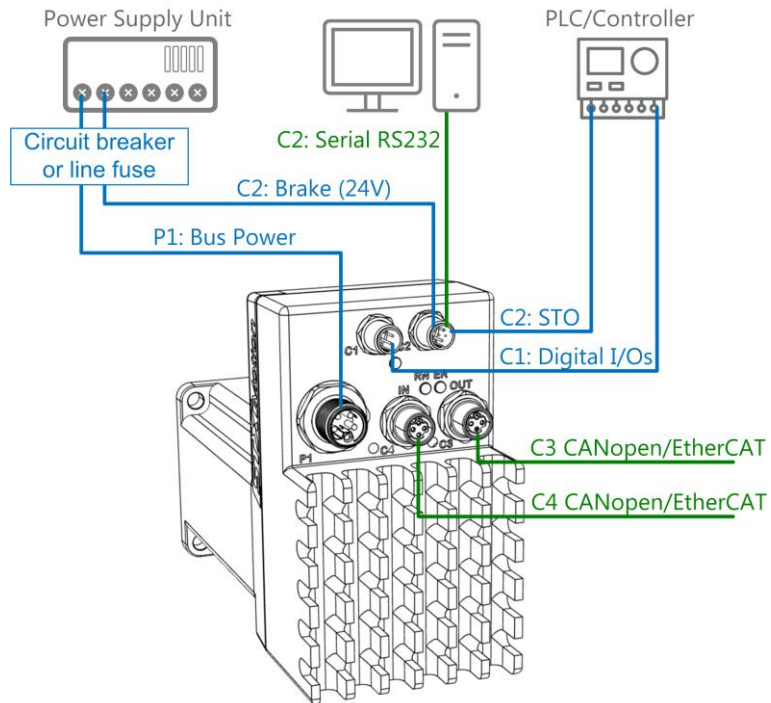
Servo Drive	Product Model	Main Features
	ZED SD01-025	Input bus: 48VDC Input logic: 24VDC Continuous current: 18/20(*) Arms Peak current: 63 Arms CANopen Encoder 12-bit incremental, RS422 communication, differential quadrature, index pulse, single-ended Halls STO IP20 4x digital input 2x digital output (*) with heatsink
	ZED SD01-030	Input bus: 24VDC Input logic: 24VDC Continuous current: 20/23(*) Arms Peak current: 70 Arms CANopen Encoder 12-bit incremental, RS422 communication, differential quadrature, index pulse, single-ended Halls STO IP20 4x digital input 2x digital output (*) with heatsink
Mating connectors		For details, refer to the <i>ZED User Manual</i>

Feature	Specification	
Mounting		book, brick
Weight	kg	0.3
Dimensions (LxWxH)	mm	70 x 102 x 40



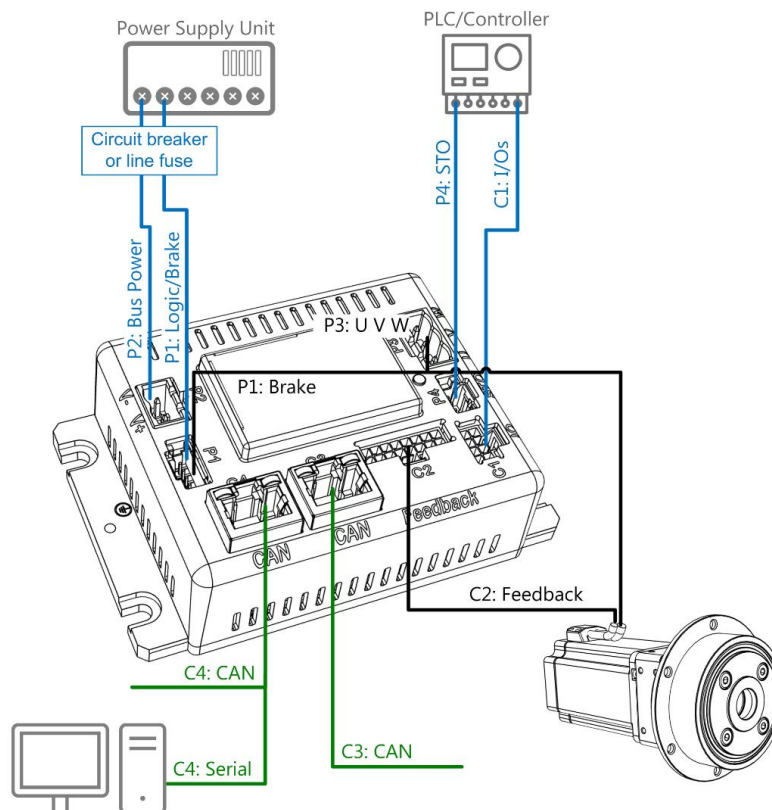
5. System Wiring

TIM-GT Wiring



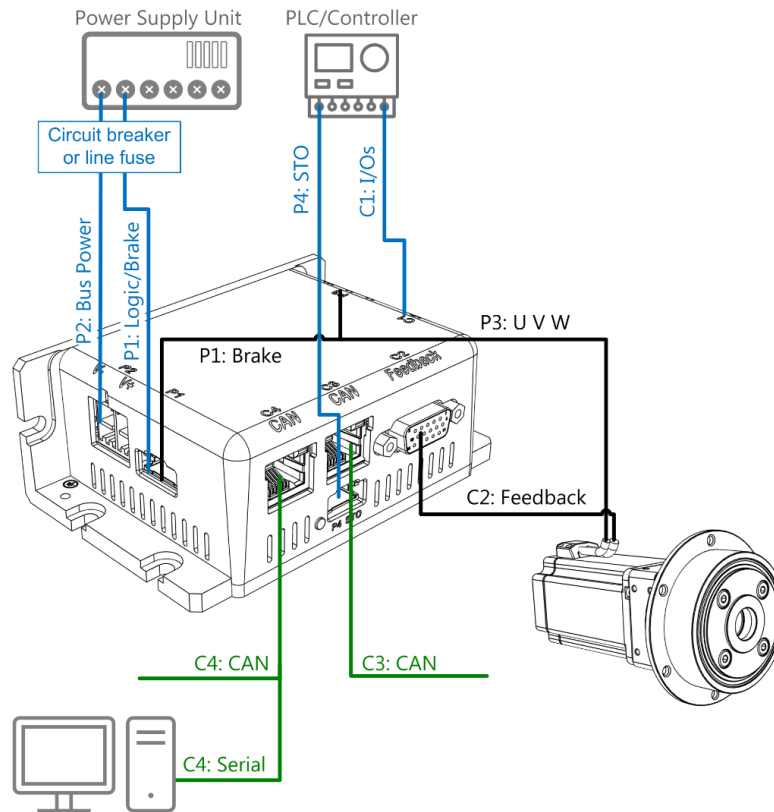
ZED – MOT-GM Wiring

ZED SD-015

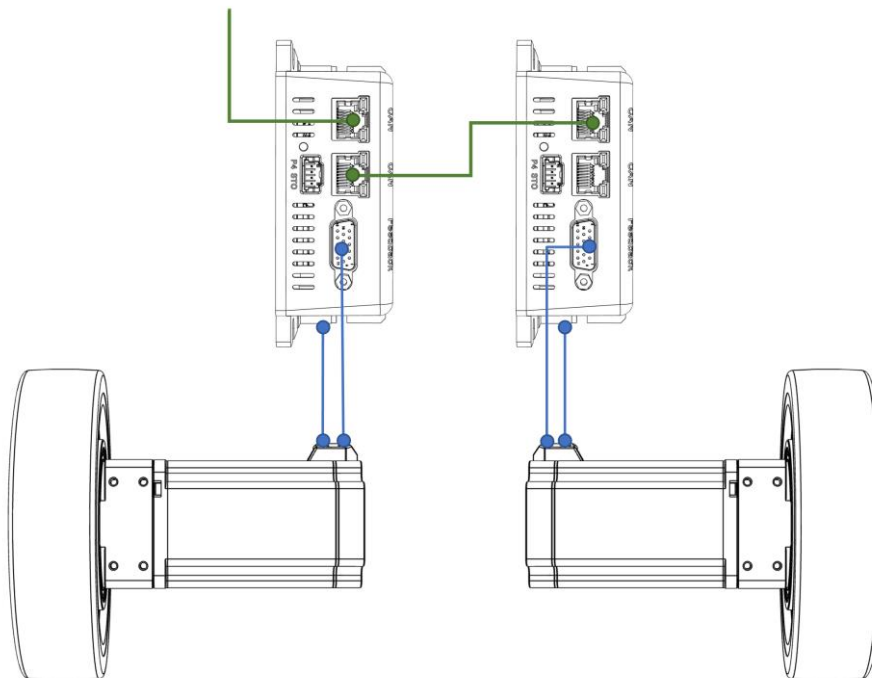


Mobile Motion System.

ZED SD-025 | ZED SD-030



Wiring Example for Differential AGV/AMR Application



green: CANopen connections
blue: Motor power and feedback connections