

Torque QTL 210 series



QTL 210 series,
with a height of 65mm

Parameter	Remarks	Symbol	Unit	QTL-A 210-65	QTL-A 210-85	QTL-A 210-105
Performance				N	N	N
Winding type						
Motor type max. voltage ph-ph	3-phase synchronous		$V_{ac rms} (V_{dc})$		480 (680)	
Ultimate torque @ 20°C/s increase	magnet @ 25°C	T_u	Nm	173	259	346
Peak torque @ 6°C/s increase	magnet @ 25°C	T_p	Nm	140	211	281
Continuous torque	coil @ 100°C	T_c	Nm	65	103	142
Stall torque	coil @ 100°C	T_s	Nm	46	73	100
Maximum speed ⁽¹⁾	@ T_c @ 680 V_{dc}	n_{max}	rpm	716	457	326
Motor torque constant	up to I_c	K_t	Nm/ A_{rms}	8.7	13.1	17.5
Motor constant	coils @ 25°C	K_m	(Nm) ² /W	8.0	13.5	19.2
Electrical						
Ultimate current	magnet @ 25°C	I_u	A_{rms}	22.0	22.0	22.0
Peak current	magnet @ 25 °C	I_p	A_{rms}	16.9	16.9	16.9
Maximum continuous current ⁽²⁾	coils @ 100°C	I_c	A_{rms}	7.45	7.88	8.11
Stall current ⁽²⁾	coils @ 100°C	I_s	A_{rms}	5.27	5.57	5.74
Back EMF phase-phase _{peak}		K_e	V/krpm	747	1121	1494
Back EMF phase-phase _{RMS}		K_e	V/krpm	528	793	1057
Coil resistance per phase	coils @ 25°C ex. cable	R	Ω	3.18	4.25	5.31
Coil induction per phase	$l < 0.6 I_p$	L	mH	16.0	22.3	28.7
Electrical time constant		τ_e	ms	5.0	5.3	5.4
Poles		N_{mgn}	nr	26	26	26
Thermal						
Continuous power loss	coils @ 100°C	P_c	W	690	1028	1363
Thermal resistance ⁽³⁾	coils to mount. sfc.	R_{th}	°C/W	0.116	0.078	0.059
Thermal time constant		τ_{th}	s	53	47	45
Temperature cut-off / sensor				PTC 1kΩ (3x) / PT1000 (3x)		
Mechanical						
Stator OD		OD_s	mm	210		
Rotor ID		ID_R	mm	140		
Motor height		H_{motor}	mm	65	85	105
Lamination stack height		H_{arm}	mm	40	60	80
Rotor inertia		J_R	kg*m ²	0.009	0.014	0.019
Stator mass	excluding cables	M_s	kg	4.2	5.9	7.5
Rotor mass		M_R	kg	1.6	2.4	3.2
Total mass	excluding cables	M_T	kg	5.8	8.3	10.7
Cable mass	all cables	m	g	500		
Cable type (power)	length 2 m	d	mm (AWG)	10.6 (13)		
Cable type (sensor)	length 2 m	d	mm (AWG)	6.4 (25)		

1. Actual values depend on bus voltage. Please check the T/n diagram in our manual or online simulation tool.
2. These values are only applicable when the mounting surface is at 20°C and the motor is driven at maximum continuous current. If these values differ in your application, please check our simulation tool or manual.
3. R_{th} based on radial mounting of stator lamination stack.

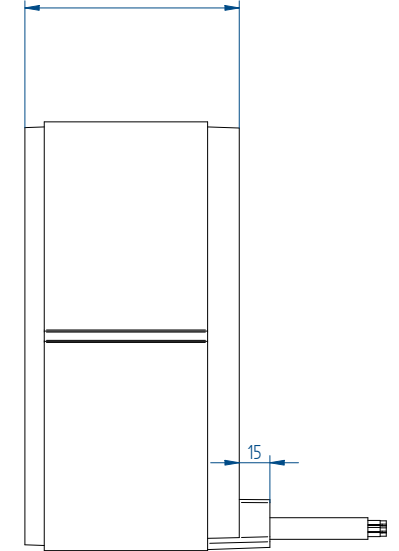
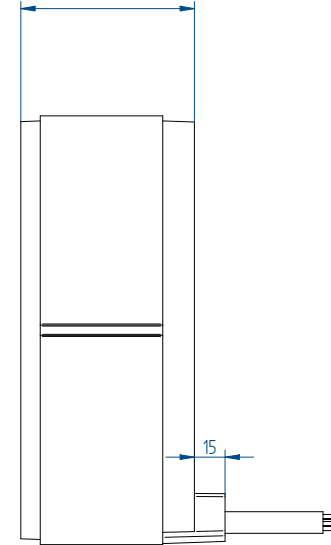
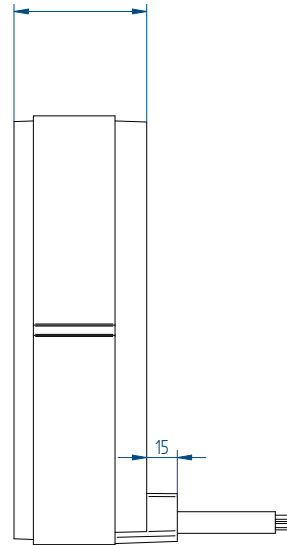
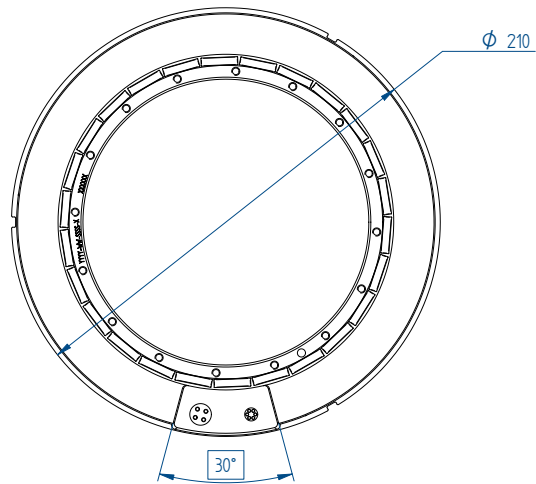
All specifications ±10%

QTL-A 210-65

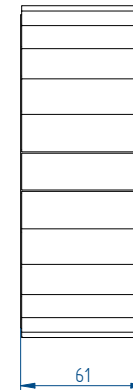
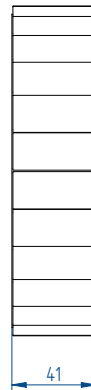
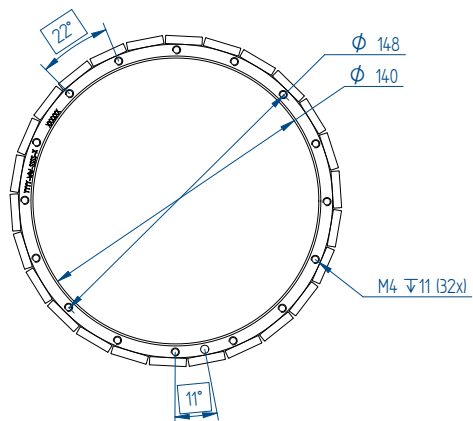
QTL-A 210-85

QTL-A 210-105

Stator



Rotor



Mounting instructions and tolerances can be found in the torque installation manual. Manuals and 3D CAD files can be downloaded from our website.

* All sizes are in mm