

QTL 210 series



QTL-A-210-65 stator and rotor

1. These values are only applicable when the mounting surface is at 20°C and the motor is driven at stall or continuous current. If these values differ in your application, please check our simulation tool.
2. Actual values depend on bus voltage. Please check the T/n diagram in our manual or online simulation tool.

Series approvals



Parameter		Remarks	Symbol	Unit	QTL-A-210-65	QTL-A-210-85	QTL-A-210-105
Performance	Winding type				N	N	N
	Motor type, max voltage ph-ph	3-phase synchronous	U _{max}	V _{ac rms} (V _{dc})	480 (680)		
	Ultimate torque @ 20 K/s increase	magnets @ 25°C	T _u	Nm	173	259	346
	Peak torque @ 6 K/s increase	magnets @ 25°C	T _p	Nm	140	211	281
	Continuous torque ¹	coils @ 100°C	T _c	Nm	65	103	142
	Stall torque ¹	coils @ 100°C	T _s	Nm	46	73	100
	Maximum speed ²	@ Umax @ T _c	n _{max}	rpm	716	457	326
	Motor torque constant	I ≤ 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	magnets @ 25°C	I _u	A _{rms}	22.0	22.0	22.0
	Peak current	magnets @ 25 °C	I _p	A _{rms}	16.9	16.9	16.9
	Continuous current ¹	coils @ 100°C	I _c	A _{rms}	7.45	7.88	8.11
	Stall current ¹	coils @ 100°C	I _s	A _{rms}	5.27	5.57	5.74
	Back EMF ph-ph _{peak}		K _e	V/krpm	747	1121	1494
	Back EMF ph-ph _{rms}		K _e	V/krpm	528	793	1057
	Resistance per phase	coils @ 25°C ex. cable	R _{ph}	Ω	3.18	4.25	5.31
	Induction per phase	I < 0.6 I _p	L _{ph}	mH	16.0	22.3	28.7
Electrical time constant		τ _e	ms	5.0	5.3	5.4	
Thermal	Continuous power loss ¹	coils @ 100°C	P _c	W	690	1028	1363
	Thermal resistance	coils to mount. sfc.	R _{th}	K/W	0.116	0.078	0.059
	Thermal time constant		τ _{th}	s	53	47	45
	Temperature sensor				PTC 1kΩ (3x) / Pt1000 (3x)		
Mechanical	Stator OD		OD _s	mm	210		
	Rotor ID		ID _r	mm	140		
	Stator height		H _s	mm	65	85	105
	Lamination stack height		H _{arm}	mm	40	60	80
	Poles		N _{mgn}		26		
	Rotor inertia		J _r	kg m ²	0.009	0.014	0.019
	Stator mass	ex. cables	m _s	kg	4.2	5.9	7.5
	Rotor mass		m _r	kg	1.6	2.4	3.2
	Total mass	ex. cables	m	kg	5.8	8.3	10.7
	Cable mass	all cables	m	g/m	250		
	Cable type (power)	length 2 m	d	mm (AWG)	10.6 (13)		
	Cable type (sensor)	length 2 m	d	mm (AWG)	6.4 (25)		

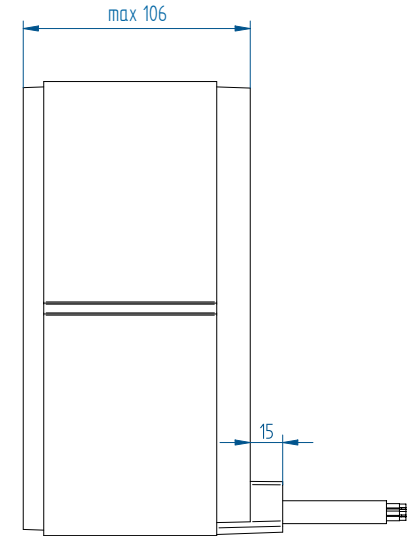
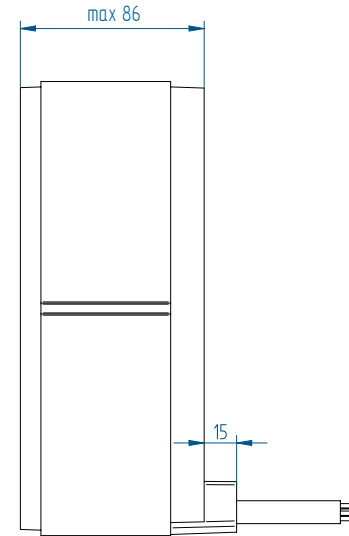
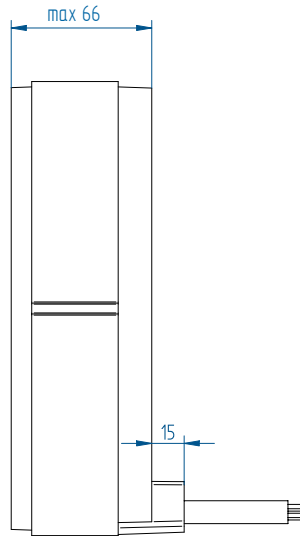
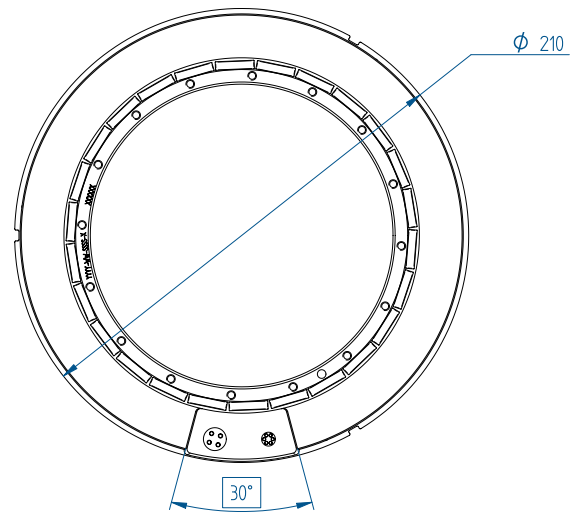
All specifications ±10%

QTL-A-210-65

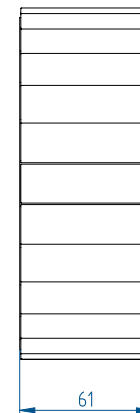
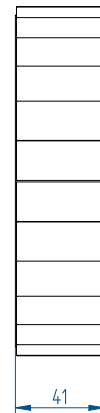
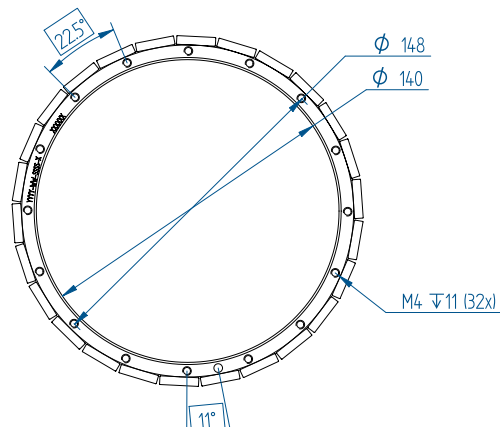
QTL-A-210-85

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