

Torque QTR 65 series



QTR-A 65 Stator and rotor shown with a height of 17 mm

Parameter	Remarks	Symbol	Unit	QTR-A 65-17	QTR-A 65-25	QTR-A 65-34	QTR-A 65-60
Winding type				N	N	Y	Y
Motor type max. voltage ph-ph	3-phase synchronous		$V_{acrms} (V_{dc})$	420 (600)			
Ultimate torque @ 20°C/s increase	magnet @ 25°C	T_u	Nm	0.64	1.31	2.25	5.47
Peak torque @ 6°C/s increase	magnet @ 25°C	T_p	Nm	0.42	0.85	1.43	3.82
Continuous torque	coil @ 100°C	T_c	Nm	0.29	0.66	1.08	2.31
Maximum speed ⁽³⁾ @ 48 Volt	@ T_c	n_{max}	rpm	5735	2673	3456	910
Maximum speed ⁽³⁾ @ max. voltage	@ T_c	n_{max}	rpm	28000	28000	28000	16960
Motor torque constant	up to I_c	K_t	Nm/ A_{rms}	0.060	0.118	0.098	0.267
Motor constant	coils @ 25°C	K_m	(Nm) ² /W	0.0021	0.0059	0.0111	0.0321
Ultimate current	magnet @ 25°C	I_u	A_{rms}	13.84	13.84	27.98	24.99
Peak current	magnet @ 25°C	I_p	A_{rms}	7.58	7.58	15.32	15.05
Maximum continuous current ⁽¹⁾	coils @ 100°C	I_c	A_{rms}	4.86	5.61	11.07	8.65
Back EMF phase-phase _{peak}		K_e	V/krpm	5.1	10.1	8.4	22.8
Back EMF phase-phase _{RMS}		K_e	V/krpm	3.6	7.2	5.9	16.1
Coil resistance per phase	coils @ 25°C ex. cable	R	Ω	0.575	0.799	0.287	0.741
Coil induction per phase	$l < 0.6 I_p$	L	mH	0.86	1.62	0.69	2.10
Electrical time constant	coils @ 25°C	τ_e	ms	1.5	2.0	2.4	2.8
Poles		N_{mgn}	nr	8	8	8	8
Continuous power loss	coils @ 100°C	P_c	W	53	99	138	217
Thermal resistance ⁽²⁾	coils to mount. sfc.	R_{th}	°C/W	1.50	0.81	0.58	0.37
Thermal time constant	up to 63% max. coiltemp.	τ_{th}	s	21	16	16	38
Temperature cut-off / sensor				No temperature sensor			
Stator OD		OD_s	mm	65			
Rotor ID		ID_R	mm	17			
Motor height		H_{motor}	mm	18	26	35	62
Lamination stack height		H_{arm}	mm	8	16	24	48
Rotor inertia		J_R	kg*m ²	3.8E-06	7.5E-06	1.1E-05	2.3E-05
Stator mass	excluding cables	M_s	g	149	248	361	717
Rotor mass		M_R	g	27	54	80	160
Total mass	excluding cables	M_T	g	176	302	441	877
Cable mass	all cables	m	g	36			
Cable type (power)	length 0.5 m	d	mm (AWG)	2.06 (16)			

1. 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.
2. R_{th} based on radial mounting of stator lamination stack.
3. MAXIMUM allowable speed for QTR-A 65 series motors is 28.000 rpm. If you plan a high speed application, please contact Tecnotion.

All specifications $\pm 10\%$

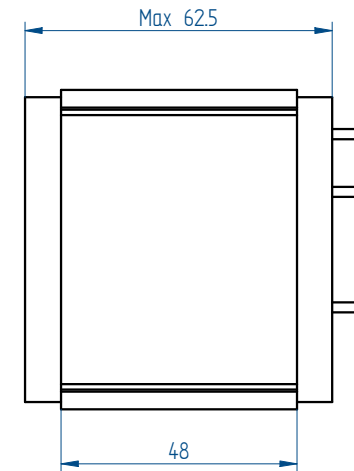
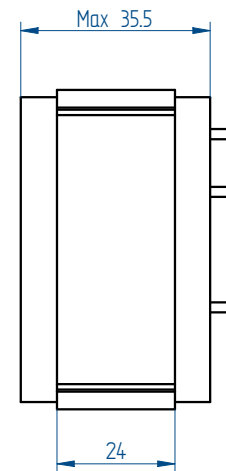
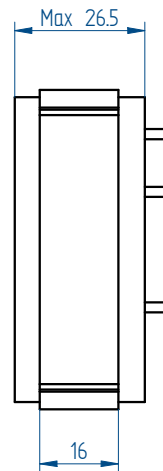
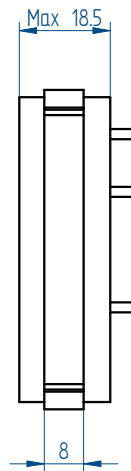
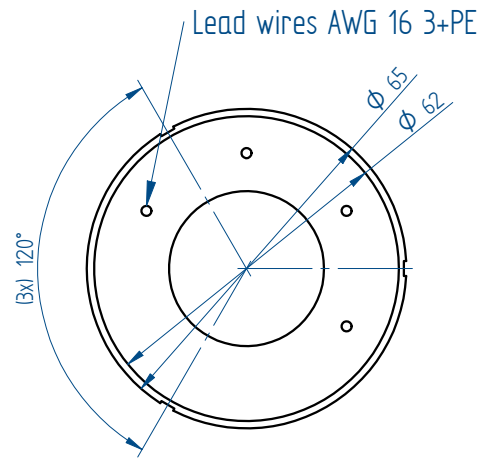
QTR-A 65-17

QTR-A 65-25

QTR-A 65-34

QTR-A 65-60

Stator



Rotor

