

QTR 78 series



QTR-A-78-17 stator and rotor

- 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.
- 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	QTR-A-78-17	QTR-A-78-25	QTR-A-78-34	QTR-A-78-60
Winding type				N	Y	Y	Y
Motor type, max voltage ph-ph	3-phase synchronous	U_{max}	$V_{ac rms} (V_{dc})$	400 (565)			
Ultimate torque @ 20 K/s increase	magnets @ 25°C	T_u	Nm	1.24	2.98	4.57	10.91
Peak torque @ 6 K/s increase	magnets @ 25°C	T_p	Nm	0.84	1.93	2.90	7.67
Continuous torque ¹	coils @ 100°C	T_c	Nm	0.57	1.34	2.10	4.47
Maximum speed ²	@ 48V _{dc} @ T _c	n_{max}	rpm	2542	2451	1533	331
Maximum speed ²	@ U _{max} @ T _c	n_{max}	rpm	9000	9000	9000	7803
Motor torque constant	$I \leq I_c$	K_t	Nm/A _{rms}	0.119	0.133	0.199	0.535
Motor constant	coils @ 25°C	K_m	(Nm) ² /W	0.0056	0.0168	0.0302	0.0861
Ultimate current	magnets @ 25°C	I_u	A _{rms}	13.87	27.96	27.96	24.88
Peak current	magnets @ 25°C	I_p	A _{rms}	7.49	15.32	15.32	15.10
Continuous current ¹	coils @ 100°C	I_c	A _{rms}	4.83	10.05	10.54	8.37
Back EMF ph-ph _{peak}		K_e	V/krpm	10.1	11.4	17.0	45.7
Back EMF ph-ph _{rms}		K_e	V/krpm	7.2	8.0	12.0	32.3
Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	0.837	0.351	0.438	1.107
Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	1.55	0.76	1.04	4.19
Electrical time constant		τ_e	ms	1.9	2.2	2.4	3.8
Continuous power loss ¹	coils @ 100°C	P_c	W	76	138	190	302
Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.98	0.54	0.40	0.25
Thermal time constant		τ_{th}	s	17	16	14	23
Temperature sensor				none			
Stator OD		OD _s	mm	78			
Rotor ID		ID _r	mm	29			
Stator height		H _s	mm	18.3	26.3	34.8	62.3
Lamination stack height		H _{arm}	mm	8	16	24	48
Poles		N _{mgn}		12			
Rotor inertia		J _r	kg m ²	1.3E-05	2.5E-05	3.8E-05	7.6E-05
Stator mass	ex. cables	m _s	g	208	353	501	1003
Rotor mass		m _r	g	42	84	126	243
Total mass	ex. cables	m	g	250	437	627	1246
Cable mass	all cables	m	g/m	72			
Cable type (power)	length 0.5 m	d	mm (AWG)	4x 2.06 (16)			

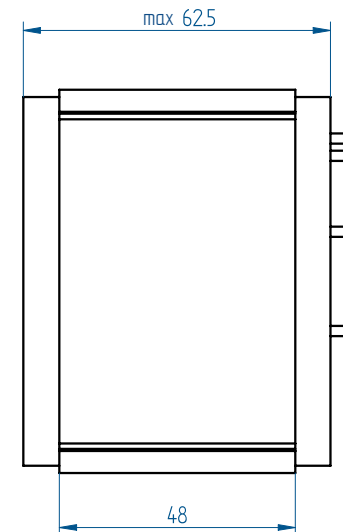
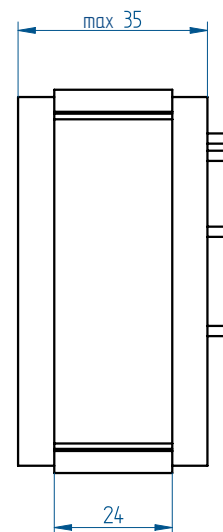
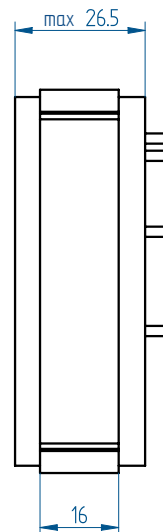
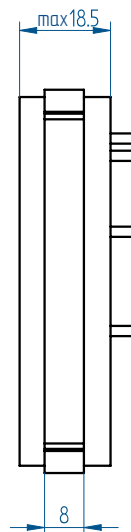
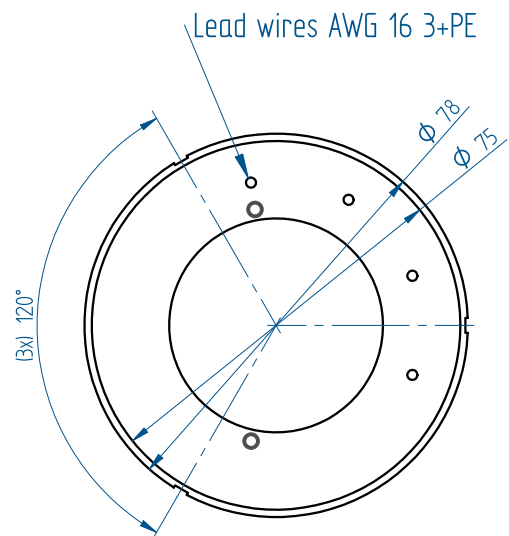
All specifications ±10%

QTR-A-78-17

QTR-A-78-25

QTR-A-78-34

QTR-A-78-60

Stator**Rotor**