KRT01S SERIES - IRON CORE TORQUE MOTOR

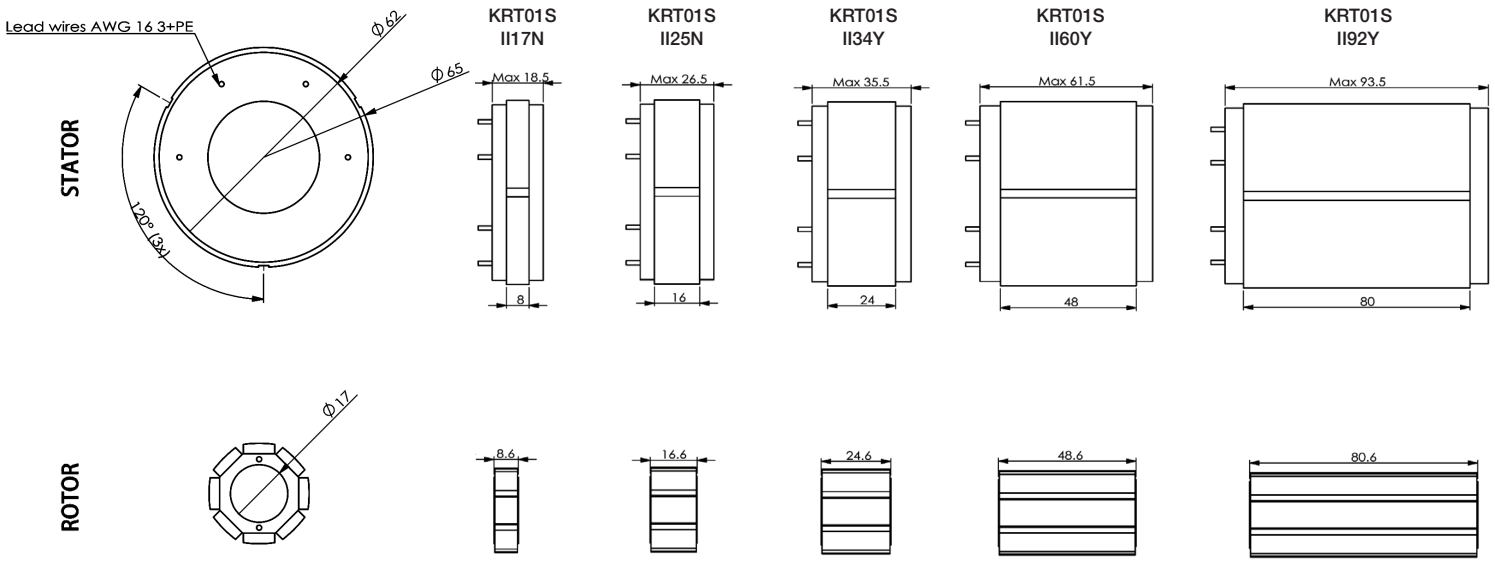
DIMENSIONS AND SPECIFICATIONS

	Parameter	Remarks	Sym	Unit	KRT01S					
Performance	**Winding type**				II17N	II25N	II34Y	II60N	II60Y	II92Y
	Motortype, max voltage ph-ph				3-phase synchronous Iron core, 220-380 $V_{ac\ rms}$ (48V-600 V_{dc})					
	Peak torque @ 20°C/s increase	Magnet @ 25°C	T_p	Nm	0.77	1.54	2.70	6.60	6.60	11.00
	Continuous torque	Coil @ 100°C	T_c	Nm	0.36	0.85	1.30	2.80	2.78	4.60
	Maximum speed	@T_c	N_{max}	rpm	28000	28000	28000	7700	13000	10000
	Motor torque constant	Up to I_c	K_t	Nm/A_{rms}	0.072	0.140	0.118	0.510	0.320	0.418
	Motor constant	Coils @ 25°C	K_m	$(Nm)^2/W$	0.002	0.006	0.012	0.035	0.036	0.046
Electrical	**Peak current**	Magnet @ 25°C	I_p	A_{rms}	14.5	14.9	30.9	15.0	27.9	35.6
	Maximum continuous current	Coils @ 100°C	I_c	A_{rms}	5	6.1	11	6.4	8.7	11
	Back EMF Phase-Phase$_{peak}$	25°C+/-10%	K_e	V/krpm	6	12	10	44	28	36
	Back EMF Phase-Phase$_{RMS}$	C25°C+/-10%	K_e	V/krpm	4	9	7	31	19	25
	Coil resistance per phase	Coils @ 25°C	R	Ω	0.73	1.02	0.38	2.45	0.95	1.28
	Coil induction per phase	I < 0.63 I_p	L	mH	1.10	2.04	0.94	6.62	2.66	4.86
	Electrical time constant	Coils @ 25°C	τ_e	ms	1.5	2	2.5	2.7	2.8	3.8
	Max. Continuous Power Loss	All coils	P_C	W	71.2	146.6	177.5	291.2	279.6	604.6
	Poles		N_{mgn}	nr	8					
Thermal	**Thermal resistance**	Coils to mount. sfc.	R_{th}	°C/W	1.50	0.80	0.58	0.37	0.37	0.11
	Temperature cut-off / sensor				Optional PTC 1kΩ / NTC					
Mechanical	**Stator OD**		Ods	mm	65					
	Rotor ID		Ods	mm	17					
	Rotor inertia		JR	Kg·cm²	0.04	0.078	0.13	0.25	0.25	0.42
	Total mass	Excluding cables	M_T	g	180	320	460	950	950	1600
	Cable type (power)	Length 0.5 m	d	mm (AWG)	Leadwires (4*1.5mm2)					

RoHS 2002/95/EC

CE

Winding C(mm)
N----------3
Y-Z----------5.5



KRT02S SERIES - IRON CORE TORQUE MOTOR

DIMENSIONS AND SPECIFICATIONS

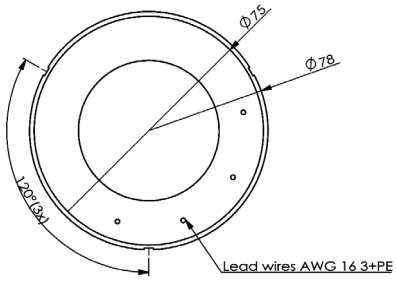
	Parameter	Remarks	Sym	Unit	KRT02S				
Performance	Winding type				II17N	II25Y	II34Y	II60Y	II92Y
	Motortype, max voltage ph-ph				3-phase synchronous Iron core, 380 $V_{ac\ rms}$ (600V_{dc})				
	Peak torque @ 20ºC/s increase	Magnet @ 25ºC	T_p	Nm	1.5	3.5	5.5	13	21.7
	Continuous torque	Coil @ 100ºC	T_c	Nm	0.68	1.66	2.63	5.29	8.82
	Maximum speed @ 48 Volt	@T_c	N_{max}	rpm	2200	1962	1296	484	220
	Maximum speed @ max. voltage	@T_c	N_{max}	rpm	20000	17500	11500	4300	1900
	Motor torque constant	Up to I_c	K_t	Nm/A_{rms}	0.14	0.16	0.24	0.64	1.40
	Motor constant	Coils @ 25ºC	K_m	$(Nm)^2/W$	0.006	0.019	0.034	0.093	0.340
Electrical	Peak current	Magnet @ 25ºC	I_p	A_{rms}	14.1	30.1	31	27.6	20.9
	Maximum continuous current	Coils @ 100ºC	I_c	A_{rms}	4.9	10.5	11.1	8.3	6.3
	Back EMF Phase-$Phase_{peak}$	25ºC+/-10%	K_e	V/krpm	12	14	20	55	121
	Back EMF Phase-$Phase_{RMS}$	C25ºC+/-10%	K_e	V/krpm	9	10	14	39	85
	Coil resistance per phase	Coils @ 25ºC	R	Ω	1.11	0.44	0.56	1.44	1.92
	Coil induction per phase	$I < 0.63\ I_p$	L	mH	1.78	0.97	1.34	4.48	6.53
	Electrical time constant	Coils @ 25ºC	τ_e	ms	1.6	2.2	2.4	3.1	3.4
	Max. Continuous Power Loss	All coils			102.5	190.9	266.7	390	297.2
	Poles		N_{mag}	nr	12				
Thermal	Thermal resistance	Coils to mount. sfc.	R_{th}	ºC/W	0.99	0.54	0.39	0.26	0.16
	Temperature cut-off / sensor				Optional PTC 1kΩ / NTC				
Mechanical	Stator OD		Ods	mm	78				
	Rotor ID		Ods	mm	29				
	Rotor inertia		JR	Kg·cm²	0.13	0.25	0.38	0.76	1.27
	Total mass	Excluding cables	M_T	g	280	440	650	1300	2000
	Cable type (power)	Length 0.5 m	d	mm (AWG)	Leadwires (4*1.5mm2)				

RoHS 2002/95/EC

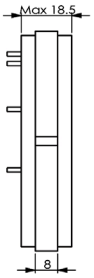
CE

Winding C(mm)
N----------3
Y-Z----------5.5

STATOR



KRT02S II17N



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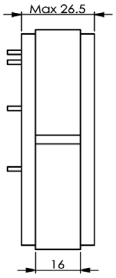

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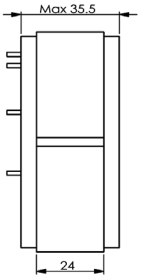

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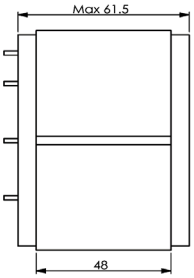

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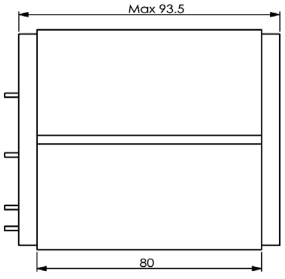

ROTOR