In Touch with Tomorrow

TOSHIBA

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TOSHIBA

TMS7 SERIES

200VAC ~ 690VAC
17A ~2361A

Electronic Soft Start Systems

Introducing the New - Generation Soft Starter From Toshiba ! Simple to Use, Comprehensive Feature List

Major World Standard

Complies with major world standards (CE marketing, UL, cUL, C-tick) (UL, cUL pending).

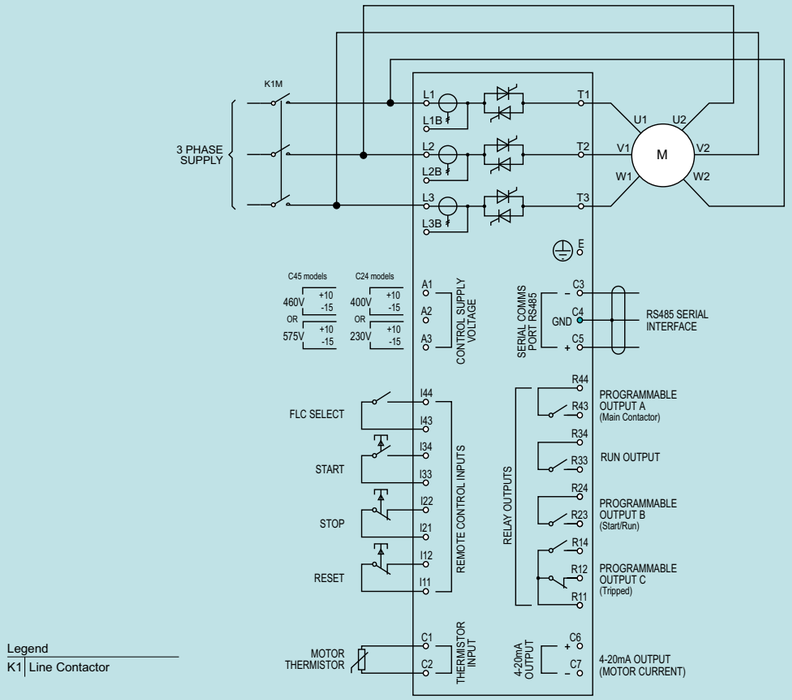
1 *Control of starting and stopping performance*

- Controlled application of starting current with no transients minimises electrical disturbances.
- Smooth application of torque eliminates mechanical shock during start thus preventing damage to the motor, couplings and load.
- Soft stop and pump control for optimum control over stopping performance.

2 *Flexible control functionality for system integration*

- Local control panel for manual control.
- Remote control inputs for control system interface.
- Four relay outputs (3 programmable).
- 4-20mA output for feedback of motor current
- RS485 link for serial communication
- Programmable automatic reset function

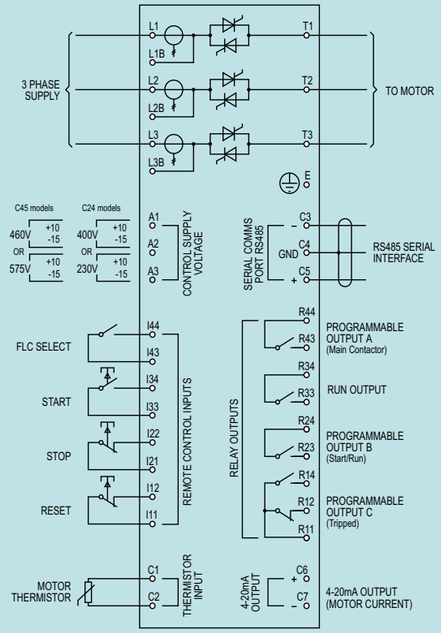
6 wire connection diagram



Input voltage	Type	Dimensions (mm) H	W	D	H1	W1	Drawing	Approx. Weight (kg)	Protection
220VAC - 525VAC or 220VAC - 690VAC	TMS7 - 4007	380	185	180	365	130	A	6	IP42 (NEMA 1)
	TMS7 - 4015								
	TMS7 - 4018								
	TMS7 - 4022								
	TMS7 - 4030	380	185	250	365	130		7	
	TMS7 - 4037								
	TMS7 - 4045								
	TMS7 - 4055								
	TMS7 - 4075	425	270	275	410	200	B	17.5	
	TMS7 - 4090								
	TMS7 - 4110								
	TMS7 - 4132	425	390	275	410	300	C	23	
	TMS7 - 4150	690	430	294	522	320	D	42	IP00 (Open Chassis)
	TMS7 - 4185								
	TMS7 - 4220								
	TMS7 - 4250								
	TMS7 - 4315							49	
	TMS7 - 4400								
	TMS7 - 4500								
	TMS7 - 4600	855	574	353	727	500	E	120	
	TMS7 - 4700								
	TMS7 - 4800								

Electrical Connection And Dimensions

3 wire connection diagram



Outline Drawings

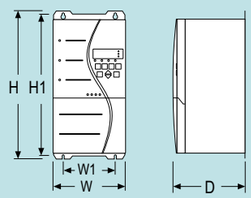


Fig. A

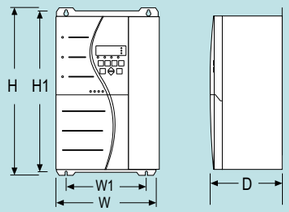


Fig. B

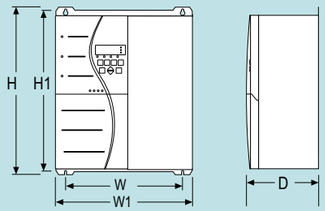


Fig. C

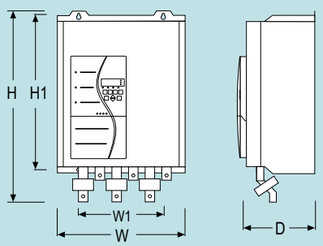


Fig. D

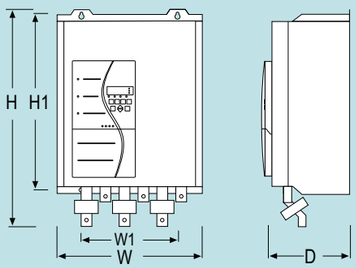


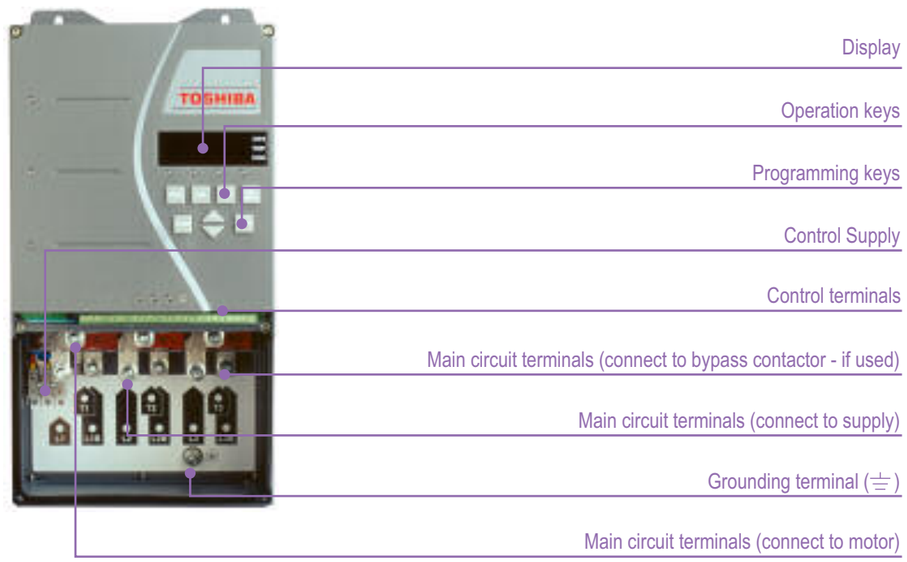
Fig. E

3 *Protection for the motor and load*

- Programmable electronic motor overload for advanced motor protection
- Phase imbalance and phase loss protection.
- Phase rotation protection to prevent reverse rotation of motor and load.
- Stall protection to prevent damage from jammed loads.
- Undercurrent protection to detect abnormal load conditions.
- Thermistor input for direct connection of motor thermistors.
- Restart delay.
- Shorted SCR detection
- Automatic power circuit verification

4 *Sundry functions*

- Password protection for starter settings
- Diagnostic display for fault finding
- Low current alarm
- High current alarm
- Motor overload alarm
- 3 Wire or 6 Wire connection

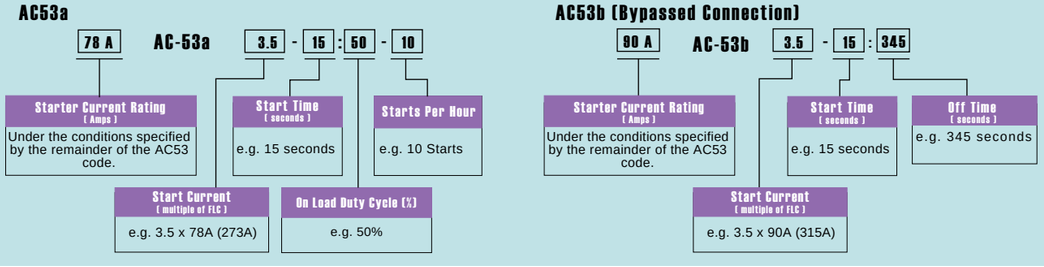


Models and Ratings

Ratings

Item		3 Wire Rating				6 Wire Rating			
Start Current (% FLC)		300%	350%	400%	450%	300%	350%	400%	450%
Start Duration (seconds)		10	15	20	30	10	15	20	30
Starts Per Hour		10	10	10	10	10	10	10	10
Duty Cycle	AC53a	70	70	70	70	70	70	70	70
Off Time (seconds)	AC53b	350	345	340	330	350	345	340	330
Ambient Temperature		45°C	45°C	45°C	45°C	45°C	45°C	45°C	45°C
TMS7-4007	AC53a	17	15	14	12	26	23	21	18
	(bypassed) AC53b	18	18	16	14	27	27	24	20
TMS7-4015	AC53a	33	29	26	22	50	44	39	33
	(bypassed) AC53b	34	34	34	28	51	51	51	42
TMS7-4018	AC53a	38	34	30	26	57	51	45	39
	(bypassed) AC53b	41	41	41	34	62	62	62	52
TMS7-4022	AC53a	44	39	35	30	66	59	53	45
	(bypassed) AC53b	47	47	47	39	71	71	71	59
TMS7-4030	AC53a	67	58	51	45	101	87	77	68
	(bypassed) AC53b	67	62	54	47	101	94	82	71
TMS7-4037	AC53a	87	75	66	58	131	113	99	87
	(bypassed) AC53b	88	82	71	61	132	122	106	91
TMS7-4045	AC53a	94	81	71	62	141	122	107	93
	(bypassed) AC53b	96	90	78	66	144	136	117	99
TMS7-4055	AC53a	123	106	93	81	185	159	140	122
	(bypassed) AC53b	125	120	103	88	188	181	155	132
TMS7-4075	AC53a	137	119	105	92	206	179	158	138
	(bypassed) AC53b	141	127	111	96	212	190	166	145
TMS7-4090	AC53a	198	171	151	132	297	257	227	198
	(bypassed) AC53b	202	187	162	140	303	281	243	210
TMS7-4110	AC53a	236	204	179	156	354	306	269	234
	(bypassed) AC53b	238	224	194	166	357	336	290	250
TMS7-4132	AC53a	244	211	186	164	366	317	279	246
	(bypassed) AC53b	254	228	198	172	381	342	297	259
TMS7-4150	AC53a	302	267	233	201	453	401	350	302
	(bypassed) AC53b	302	285	245	209	453	427	368	314
TMS7-4185	AC53a	405	361	313	267	608	542	470	401
	(bypassed) AC53b	405	395	336	282	608	592	504	424
TMS7-4220	AC53a	513	456	393	331	770	684	590	497
	(bypassed) AC53b	513	513	435	356	770	770	653	534
TMS7-4250	AC53a	585	524	450	376	878	786	675	564
	(bypassed) AC53b	585	585	504	410	878	878	756	614
TMS7-4315	AC53a	628	568	489	412	942	852	734	618
	(bypassed) AC53b	628	626	528	436	942	939	793	654
TMS7-4400	AC53a	775	710	606	502	1163	1065	909	753
	(bypassed) AC53b	775	775	672	542	1163	1163	1009	813
TMS7-4500	AC53a	897	831	706	578	1346	1247	1059	867
	(bypassed) AC53b	897	897	798	632	1346	1346	1197	948
TMS7-4600	AC53a	1134	989	872	759	1701	1484	1308	1139
	(bypassed) AC53b	1153	1153	1006	850	1730	1730	1509	1276
TMS7-4700	AC53a	1385	1210	1066	921	2078	1815	1599	1382
	(bypassed) AC53b	1403	1403	1275	1060	2105	2105	1912	1591
TMS7-4800	AC53a	1563	1366	1202	1030	2345	2049	1803	1545
	(bypassed) AC53b	1574	1574	1474	1207	2361	2631	2212	1811

Contents of the AC53 utilisation code



Specifications

Item		Specification
Supply	Supply voltage (V5 models)	3 x 200~525VAC (3 Wire Connection), 3 x 200~440VAC (6 Wire Connection)
	Supply voltage (V7 models)	3 x 200~ 690VAC (3 Wire Connection), 3 x 200~440VAC (6 Wire Connection)
	Electronics Supply (C24 models)	230VAC (+10%/-15%) or 400VAC (+10%/-15%)
	Electronics Supply (C45 models)	460VAC (+10%/-15%) or 575VAC (+10%/-15%)
	Supply frequency (at start)	50Hz (± 2Hz) or 60Hz (±2Hz)
	Supply frequency (during start)	> 45Hz (50Hz supply) or > 55Hz (60Hz supply)
	Supply frequency (during run)	>48Hz (50Hz supply) or > 58Hz (60Hz supply)
Control Inputs	Start (I34,I33)	Normally Open, Active 24VDC, 8mA approx.
	Stop (I22,I21)	Normally Closed, Active 24VDC, 8mA approx.
	Reset (I12,I11)	Normally Closed, Active 24VDC, 8mA approx.
	FLC Select (I44,I43)	Normally Open, Active 24VDC, 8mA approx.
Outputs	Run Output (R34,R33)	Normally Open, 5A @ 250VAC/360VA, 5A @ 30VDC resistive
	Prog. Output A (R44,R43)	Normally Open, 5A @ 250VAC/360VA, 5A @ 30VDC resistive
	Prog. Output B (R24,R23)	Normally Open, 5A @ 250VAC/360VA, 5A @ 30VDC resistive
	Prog Output C (R14,R12,R11)	Changeover, 5A @ 250VAC/360VA, 5A @ 30VDC resistive
	Analogue Output (C6,C7)	4-20mA
	Serial Link (C3, C4, C5)	RS485 (Non Isolated)
Environments	Enclosure Rating	TMS7-4007~4132- IP42 (NEMA 1), TMS7-4150~4800 - IP00 (Open Chassis)
	Operating Temperatures	-5°C / +60°C
	Relative Humidity	5 – 95% (max non condensing)
Sundry	Rated short-circuit current	100kA (with semi-conductor fuses)
	Rated insulation voltage	690 V
	Surges	2kV line to earth, 1kV line to line
	Fast transients	2.0kV / 5.0 kHz
	Rated impulse withstand voltage	2 kV
	Form designation	Form 1
	Electrostatic discharge	4kV contact discharge, 8 kV air discharge
	Equipment class (EMC)	Class A[1]
	Radio-frequency electromagnetic field	0.15 MHz - 80 MHz: 140dBµV, 80 MHz - 1 GHz: 10 V/m
	Pollution degree	Pollution Degree 3

1 This product has been designed for class A equipment. Use of the product in domestic environments may cause radio interference, in which case the user may be required to employ additional mitigation methods.

Contents of the product code