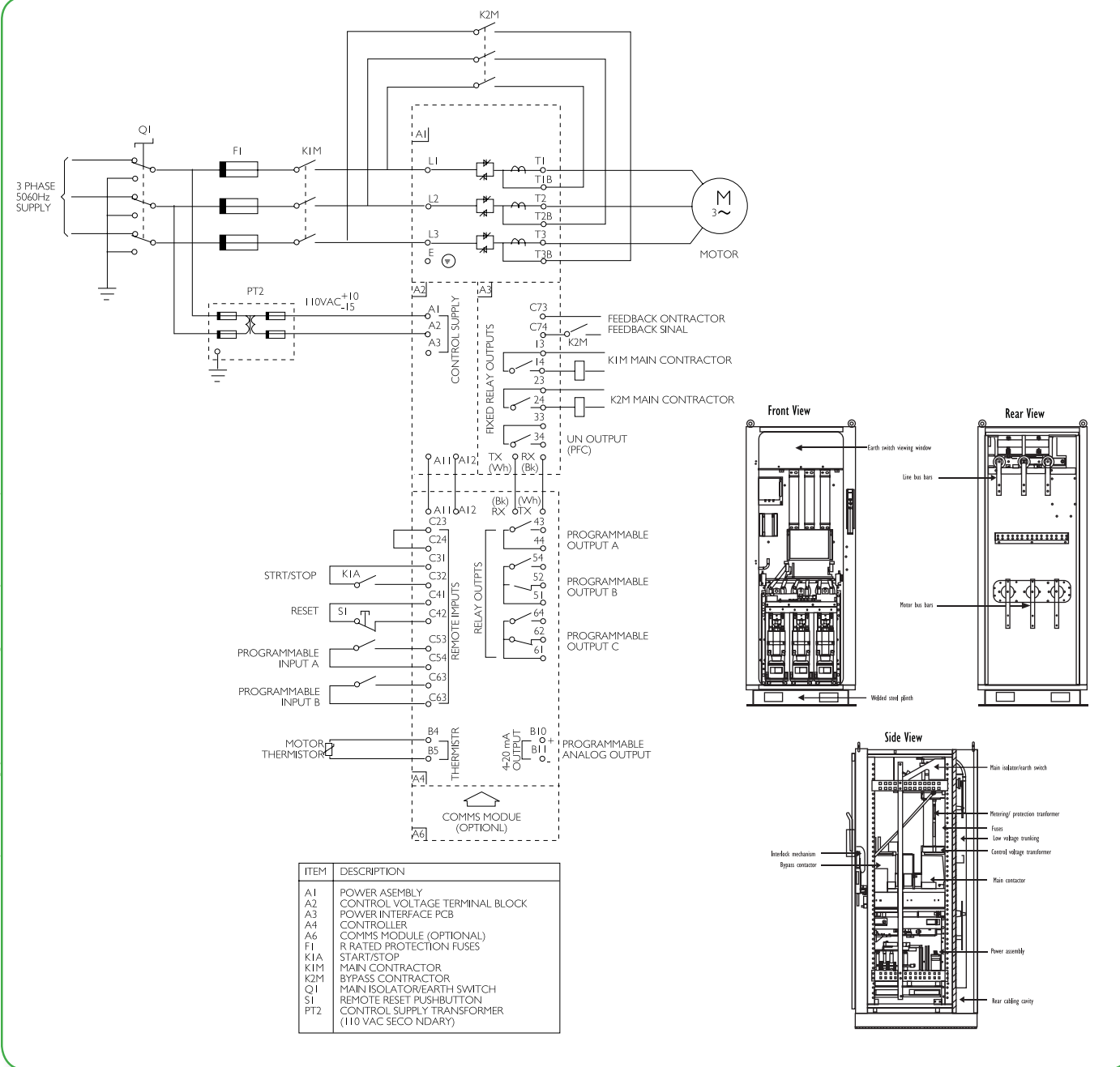


STANDARD CONNECTION



TOSHIBA
Leading Innovation >>>

MEDIUM VOLTAGE SOFT STARTER



TOSHIBA
Leading Innovation >>>

NSW/SYDNEY - REGISTERED OFFICE

Toshiba International Corporation Pty Ltd
2 Morton Street,
Parramatta NSW 2150
Tel: 61+2 9768 6600 Fax: 61+2 9890 7546

NSW/MAITLAND

Toshiba International Corporation Pty Ltd
Unit 1, 18 Kinta Drive,
Beresfield NSW 2322
Tel: 61+2 4966 8124 Fax: 61+2 4966 8147

QUEENSLAND

Toshiba International Corporation Pty Ltd
Unit 4-20 Smallwood Place
Muramie QLD 4172
Tel: 61+7 3902 7888 Fax: 61+7 3902 7878

VICTORIA

Toshiba International Corporation Pty Ltd
411 Ferntree Gully Rd,
Mount Waverley, VIC 3149
Tel: 61+3 8541-7960 Fax: 61+3 8541-7970

WESTERN AUSTRALIA

Toshiba International Corporation Pty Ltd
10 Anderson Place,
Perth International Airport, WA 6105
Tel: 61+8 9479 4188 Fax: 61+8 9479 4189

WWW.TOSHIBA.COM.AU

Toshiba International Corporation Pty Ltd
ABN: 29 001 555 068
The information in this brochure is subject to
change without notice. 5/07

THE KEY BENEFITS OF THE TMV SOFT STARTER SERIES:

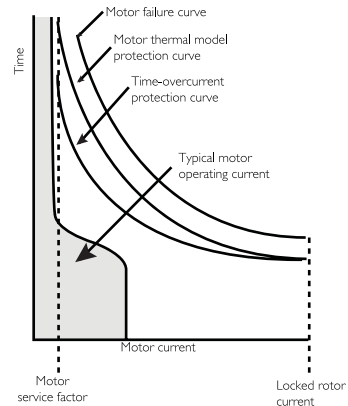


- Produces smoother starts and stops
- Limits the in-rush current
- Reduces mechanical stress and damage
- Eliminates current surges and voltage dips on supply lines
- Smooth stop avoids water hammer in pumps
- Excess start-time up to 4 minutes
- Programmable inputs and outputs for ease of operation
- Compatible with PC software

SALIENT FEATURES

- Complete Panel ready for connection
- Extensive Built-In Protection
- Motor Overload Protection

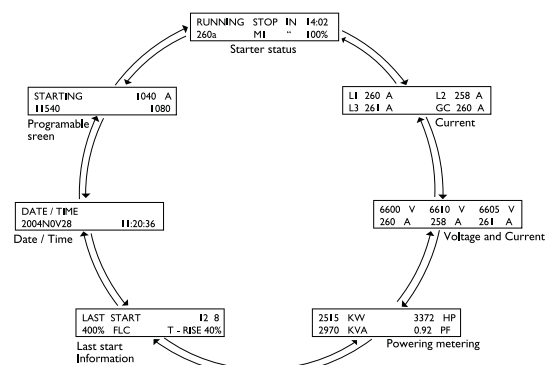
MOTOR OVERLOAD PROTECTION



The TMV offers two forms of motor overload protection:

- A Motor Thermal Model that monitors the performance of the motor and calculates its status at all times. This model provides finer motor protection than the time-over current module.
- A time-over-current model that calculates the motor's status from a predefined performance curve.

OPERATING FEEDBACK



The TMV uses metering screens to display information on the soft starter's performance. This can be achieved by using the up-down buttons between the metering screens.

TPR-6 (TEMPERATURE-PROTECTION RELAY)



The TIC TPR-6 monitors 6-14 RTD/Thermistor-temperature inputs. It accurately measures the temperature increase to protect the motor from damage due to heat build-up in the winding and/or bearings.

The Main Applications of the TMV Soft Starter Series include:

- Large Size, Medium Voltage (MV) Motors
- Centrifugal Pumps
- Centrifugal Fans/Blowers
- Centrifugal Compressors and chillers
- Other Centrifugal Loads

Options:

- Communication
 - ProfiBus
 - Modbus
 - DeviceNet
- MV Potential Transformer
 - In lieu of external 110V and/or 240V control supply, MV potential transformer can be provided.
- Complete By-Pass
 - Complete by-pass for emergency operation in case of failure of electronics and power section.
- Front Access
- Earthing Clamps for output terminals.

STANDARD TECHNICAL SPECIFICATION

Supply Voltage	3.3 kV, 6.6 kV 11 kV (Future)
Supply Frequency	50Hz / 60 Hz
Altitude	1000m
Operating Temperature	-10°C and + 60°C
Relative Humidity	5% and 95%
Cooling	Natural Air Cooled
Panel Construction	IP54
Accessibility	Front
Cable Entry/Exit	Rear (Top / Bottom)
Storage Temperature	-25°C and + 55°C -25°C and + 70°C (<24 hours)
Pollution Degree	Pollution Degree 3
Vibration	4Hz to 13.2 Hz ± 1 mm displacement 13.2 Hz to 200 Hz: ± 0.7g
External Dimensions	Height: 2080 mm Width: 825 mm Depth: 1030 mm

(applies to entire TMV Series, all ratings)

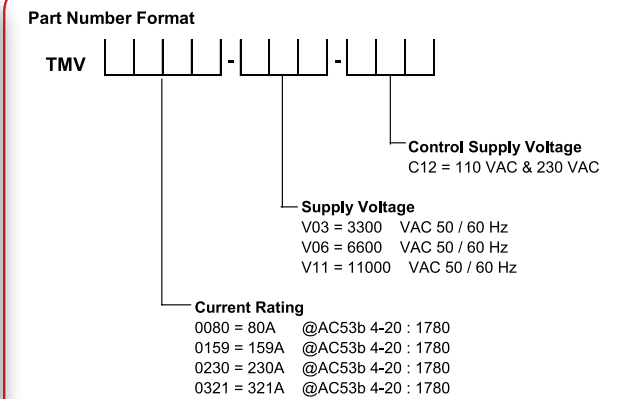
CENTRIFUGAL PUMP APPLICATION



TMV CONTROL PANEL



PART NUMBER FORMAT



CURRENT RATING

Two starts per hour	3.5 - 15: 1785		4.0 - 20: 1780		4.0 - 15: 1770		5.0 - 30: 1770		5.0 - 60: 1740	
	40°C	50°C	40°C	50°C	40°C	50°C	40°C	50°C	40°C	50°C
TMV0080	96	91	80	74	72	66	59	55	46	42
TMV0159	190	177	159	147	143	132	117	109	91	84
TMV0230	282	261	230	213	201	185	165	152	121	111
TMV0321	393	363	321	296	279	257	229	211	168	154

Three starts per hour	4.0 - 20: 1180		4.0 - 30: 1170		5.0 - 30: 1770		5.0 - 60: 1140	
	40°C	50°C	40°C	50°C	40°C	50°C	40°C	50°C
TMV0080	73	68	65	60	53	49	40	37
TMV0159	146	135	129	119	106	98	79	73
TMV0230	207	190	175	162	144	132	101	93
TMV0321	288	265	244	225	200	184	141	129

Four starts per hour	4.0 - 20: 880		4.0 - 30: 870		5.0 - 30: 870		5.0 - 60: 840	
	40°C	50°C	40°C	50°C	40°C	50°C	40°C	50°C
TMV0080	68	63	59	54	48	45	35	33
TMV0159	136	125	117	108	96	89	70	65
TMV0230	188	173	157	144	129	118	88	81
TMV0321	262	241	218	200	179	164	122	112

