

MOTOR CONTROL IS OUR NATURE



SOLCON | PRODUCT GUIDE



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COMPANY PROFILE

Solcon Industries Ltd.

Solcon is a dynamic, high-tech power-electronics company that has been at the forefront of design, development and manufacturing of industrial electronic motor-starting and control systems for over 35 years.

Solcon offers a complete range of Low and Medium Voltage Soft Starter products for a wide range of standard and heavy duty applications, as well as Motor Protection Relays, and other Control Products. By using advanced technology, based on continuous field research, Solcon implements the highest quality criteria, guaranteeing longterm reliability to its customers. We take pride in providing custom made solutions for the toughest applications including the Mining, Marine, Water, and Oil & Gas Industries.

Solcon's consistent investment in Research and Development, and a strong relationship with its global partner network and worldwide customer base, have been keys to its success. A deep understanding of the market needs and application requirements have enabled Solcon to upgrade existing product lines and introduce brand new, innovative solutions to the market making us a market leader.

Solcon is accredited with ISO 9001:2000. Our products are designed to meet international standards such as CE, UL, cUL, Ex, Gost-R, Lloyds, Germanischer Lloyds, DNV, BV, ABS, RINA, KR, NK-Class, RMRS, CCS and other approvals are also available.



Meeting your needs across Industries



COMPLETE RANGE OF LOW AND MEDIUM VOLTAGE SOFT STARTERS, MOTOR PROTECTION RELAYS AND CONTROL PRODUCTS

Standards





DYNAMIC, WER-**ELECTRONICS**



MEDIUM VOLTAGE PRODUCTS

HRVS-DN

Digital, Heavy Duty, Medium Voltage Soft Starter 2.3-15kV, up to 48MW

The HRVS-DN is heavy duty Medium Voltage Soft Starter, designed for Medium Voltage AC induction motors including Marine and Mining applications. The HRVS-DN's sophisticated motor control technology ensures smooth acceleration and deceleration as it minimizes the effect of high in-rush current and mechanical torque shock. Advanced features including customizable starting curves, unique voltage measurements, flexible design and enhanced motor protection as well as a global track record make the HRVS-DN the starting solution of choice for Medium Voltage applications even under the most demanding conditions.

The HRVS-DN's flexible configuration is designed to meet requirements of new applications, retrofits and OEM customization. It is available with Marine approvals and with ProGear, a fully Type Tested Arc Resistant switchgear.

Time over current

ground fault

Number of starts

Power ON no start

Thermal modeling

Under/over frequency

Over Voltage

External fault

Instantaneous and time

ADVANCED FEATURES

- Configurable starting & stopping characteristics
- Enhanced motor protection package
- User friendly setup and operation
- Multi-soft start and multi-soft stop
- Unique synchronous motor starting module
- Dedicated generator starting curve
- Pump and load control
- Advanced Electronic Potential Transformer (EPT) utilizing fiber optics
- Partial Discharge test according to EN50178/625.1

Integral Protections

- Bypass open
- Under Voltage
- Under current
- Current unbalance
- Phase sequence
- Maximum start time
- Electronic overload
- Instantaneous over current 100-850%

- Direct Power Factor Capacitor connection
- 45-65Hz Auto-tracking frequency range
- Easy to conduct Low Voltage test
- EMC design and test
- Communication options: Modbus, Profibus, DeviceNet
- Compact 2-phase control configuration (optional)
- Data Logger A turnkey current and voltage wave recorder at a sampling rate of up to 50kHz with advanced graphic software interface for remote waveform monitoring (optional)
- Multi-Voltage and current starters (optional)
- - Phase loss
 - Shorted SCR
 - Over load class trip



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Fully Type Tested, Arc Resistant, Medium Voltage Soft Starter Switchgear

Metal enclosed cabinets manufactured according to IEC standard 62271-200. Adhering to the highest safety standards, Solcon's ProGear is designed for uncompromising protection and performance.

MODELS | 2.3-15kV, 60-1,800A

lains Itage (kV)	Rated Current (A)	Moto kW (kW)		Mains Voltage (kV)	Rated Current (A)	Moto kW (kW)
	60	200			60	360
	110	360			110	660
	200	660			200	1,200
	320	1,060			320	1,930
2.3	400	1,330			400	2,410
2.5	500	1,660		4.16	500	3,010
	600	2,000			600	3,610
	700	2,300			700	4,210
	800	2,660			800	4,820
	1,000	3,330	1,000	6,030		
	60	280			70	670
	110	520			140	1,340
	200	950			250	2,390
	320	1,530			300	2,870
.	400	1,910			400	3,820
3.3	500	2,390		400 500	4,780	
	600	2,850			600	4,780 5,736
	700	3,325		6.6	700	
	800	3,820				6,740
	1,000	4,780			800	7,650
					1,000	9,570
					1,200	11,500
					1,400	14,000
					1,600	16,000
					1,800	18,000

How To Order Example: 3.3kV 230V HRVS-DN 1000A Mains Voltage Rated Current Control Voltage

115VAC, 230VAC 24VDC, 110VDC 125VDC, 220VDC

6

- Rated: up to 12kV, 1250A
- Internal Arc Test 31.5kV/1sec, IAC: A-FLR Short-time
- withstand current 31.5kA/3sec
- Dielectric Test Power Frequency 28kV 60sec /75kV BIL

-

- Temperature Rise Test
- IP54 Protection Degree

Mains Voltage (kV)	Starter Current (A)	Motor kW (kW)	Mains Voltage (kV)	Starter Current (A)	Motor kW (kW)
	70	1,020		70	1,100
	140	2,040		140	2,200
	250	3,650		250	4,000
	300	4,300		300	4,800
	400	5,800		400	6,400
	500	7,250		500	8,000
10	600	8,700	11	600	9,600
10	700	10,150	11	700	11,200
	800	11,600		800	12,800
	1,000	14,500		1,000	16,000
	1,200	17,400		1,200	19,200
	1,400	22,000		1,400	22,400
	1,600	25,000		1,600	25,600
	1,800	28,000		1,800	28,800
	(kV) (A) (kW) 70 1,020 140 2,040 250 3,650 300 4,300 400 5,800 500 7,250 600 8,700 700 10,150 800 11,600 1,000 14,500 1,200 17,400 1,600 25,000		70	1,400	
	0 1,020 140 2,040 250 3,650 300 4,300 400 5,800 500 7,250 600 8,700 700 10,150 800 11,600 1,000 14,500 1,200 17,400 1,400 22,000 1,600 25,000			140	2,800
				250	5,000
				300	6,000
				400	8,000
				500	10,000
			13.8	600	12,000
				700	14,000
				800	16,000
				1,000	20,000
				1,200	24,000
				1,000	20,000
				1,200	24,000

230V

Control Input Voltage

115VAC. 230VAC 110VDC, 125VDC 220VDC, 24V AC/DC

Options

- 2P -2-phase control
- 3M -Modbus
- 3P -Profibus
- 3D -DeviceNet
- 4 -Insulation test
- Analog output 5 -
- M Marine standard NLR - Multi motor soft -stop
- SDL Solcon Data Logge
- U UL & CUL standard

DriveStart | IGBT BASED MEDIUM VOLTAGE SOFT STARTER UP TO 6.6KV, 500A

The first of its kind IGBT based Medium Voltage Soft Starter

Optimized for applications that require a low starting current and/or a high starting torque

- Provides full torque start
- Starts at nominal motor current or lower
- Enables motor starting from weak electrical networks
- Reduces motor heat at start enabling use of standard motors

Saving costs, energy and space while meeting top performance requirements

- More economical than a Medium Voltage VFD, yet providing similar soft start and soft stop features
- Integrated bypass ensures no energy loss during operation, reducing energy waste and operational costs
- Peak demand reduction
- Streamlined design translating to at least 50% reduction in space requirements vs. a VFD with comparable performance



Technical Specifications

- Input voltage Up to 6.6kV 50/60Hz +10% -15
- Power range Up to 6.6kV, 5MW
- Mains starting current 10% to 120% of motor rated current
- Starting capacity of 100% of FLC at 50°C, numerous number of starts
- Starting torque Up to 160% of motor rated torque
- Internal synchronization system (bypass), from DriveStart to mains and back
- Soft Start and Soft Stop
- Multi-start capabilities
- Electronic Potential Current Transformer (EPCT) voltage and current measurements via fiber optics
- Integrated Data Logger and wave form capture for all major system signals including current and voltage for remote diagnostics and failure analysis (Optional)

Models | Up to 6.6KV, 500A

Mains Voltage	Rated Current	Unit Dimensions (cm)			
(kV)	(A)	Н	W	D	
3.3	300		200	125	
3.3	400	230			
4.16	300	230			
	400				
6.6	300	230	400	125	
0.0	400	230			
10	300		250	220	
10	400	250			
11	300	230	230		
	400				

How To Order

Example: DriveStart - 300A - 6.6kV Rated Current Mains Voltage



110 VAC, 230







Control Input Voltage 24VDC, 24VAC, 115VAC, 230VAC, 110VDC, 125VDC, 220VDC



Options 3M - Modbus MSS - Multi soft stop/start SDL - Solcon Data Logger

HRVS-TX

Medium Voltage Inrush Current Limiter Up to 100MVA, 36kV

The HRVS-TX eliminates transformer inrush current for all types of Medium Voltage Transformers, up to 100 MVA at 36kV. It is the ideal current limiting solution for Medium Voltage Transformers. Its sophisticated control ensures the elimination of the magnetizing inrush current, eliminating nuisance tripping as well as dynamic shock to the transformer windings. The current limiter can be supplied as IP31-54 with options such as Line and Bypass vacuum contactors and optional circuit breakers, disconnect switches, main and control protection fuses and transformer protection relays.

Advanced Features

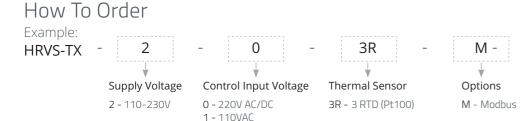
- Integral Current Limiting Relay (TSR-6)
- Heavy duty design
- Ambient operating temperature -10°C to 50°C
- Reduced inrush current and dynamic shock
- Applicable models for any transformer
- Communication RS485 Modbus
- Unique starting characteristics
- Fault indication to each individual fuse

- Partial Discharge (Korona) test for each transformer starter
- Wide 40-70Hz range for fluctuating frequency systems
- IP31-standard, Higher standard available
- User friendly, easy setup and operation
- Electronic Potential Transformer (optional)
- Extended protection package (optional)
- Transformer temperature protection relay (optional)

Up to 36kV, 100MVA Models |

Mains			Unit Dimensions (cm)			
Voltage (kV)	Current (A)	Power (kVA)	Н	W	D	
2.2	600	3,400				
3.3	1,200	6,900				
4.16	600	4,300	230 180	230 180 11	110	
	1,200	8,600			100	110
6.6	600	6,900				
0.0	1,200	13,700				
	600	11,400				
11	1,200	22,900	230	210	110	
	1,600	30,500			1	

Mains	Max	Max	Unit Dimensions (cm)			
Voltage (kV)	Current (A)	Power (kVA)	Н	W	D	
	600	14,300	1			
13.8	1,200	28,700	230	250	110	
	1,600	38,200				
22	600	22,900	240	240 330	120	
	1,200	45,700				
	1,600	61,000				
36	1,200	74,800	250	450	120	
	1,600	99,800	250	450	120	



MV-TPS

Medium Voltage Thyristor Power System Up to 13.8kV, 500A

Medium Voltage Heater Controller

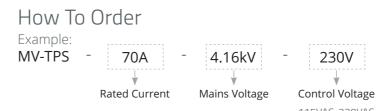
The MV-TPS is a heavy duty, fully digital, zero-crossing, phase-control, 3-phase control power unit for all types of resistive loads. The MV-TPS is intended for voltage control of very large Medium Voltage heating applications. Using a Medium Voltage drastically reduces the amount of cable required, the size of the heating elements, and the size of the electrical equipment cabinets and saves costly step-down transformers and switchgear versus a Low Voltage system.

Advanced Features

- Fully programmable, 15 protection functions
- Load Unbalance alarm to detect a faulty element, even in a parallel connected element system
- Under power level alarm to detect faulty element in case the system is designed to work unbalanced
- Two-line, 16 character LCD screen displays actual values, statistical & maintenance data

MODELS | Up to 13.8kV, 500A

Mains Voltage (kV)	Rated Current (A)	Heater kW @6.6kV	U
4.16	70		
	140	2000	
	300		
	500	1000	
6.6	70		
11	140	Concu	1+
	300	Consu	
13.8	500		



115VAC, 230VAC 24VDC, 110VDC 125VDC, 220VDC

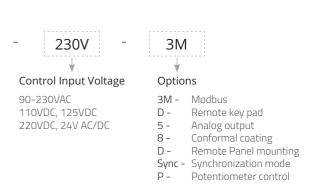




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*Patent pending





LOW VOLTAGE PRODUCTS



Advanced Low Voltage Soft Starter 17-430A, 208-690V

YOUR TOTAL SOFT STARTING SOLUTION EASY TO COMMISSION, SIMPLE TO OPERATE

The iStart is Solcon's latest, most advanced soft starter, with built-in bypass and 2 or 3-phase control. It incorporates enhanced soft-start and soft-stop characteristics, providing the best solution for a wide range of applications.

The comprehensive motor protection package guarantees long term reliability while the built-in bypass ensures excellent performance, all in a small versatile design.



iStart size A, B

ADVANCED FEATURES

- Universal Interchangeable Control Module
- Communication options (Modbus, Profibus)
- Multi language operating system
- Real-time, online, 99 event and trip log (including currents, voltages)
- Optimized for high efficiency motors (IE3)
- 2-phase mode for on-site phase fault operation
- Plug and play fan option for increased capacity (sizes A, B, C)
- Basic, professional and expert set-up menus
- User defined metering and monitoring of 3-phase voltages, 3-phase currents and power factor

- Auto reset for selected faults
- 3 Thermistor inputs
- Frequency auto tracking 45-65 Hz
- Inline and inside delta connection
- Universal control voltage 110-220V AC/DC (Sizes A, B, C)
- 3 Current transformers
- Economical 2-phase units available

Soft Start & Soft Stop Functions

- Acceleration control
- Current limit start
- 6 adjustable curves for pumps, generators, standard and torque controlled applications
- Soft stop
- Kick start
- Restart delay (3 sec)

MODELS | 17-430A, 208-690V

Madal	Rated Current	Motor kW	Unit Di	mension	s (mm)	\\/_:_h+///\	Internal Bypas	2 or 3-Phase
Model	(A)	@400V	Н	W	D	Weight (kg)	Internal Bypas	Control
	17	7.5						
А	31	15	245	122	147	3.2	+	+
	44	22						
	58	30						
В	72	37	275	132	208	5.2	+	+
	85	45						
	105	55			234	10.9	+	
С	145	75	388	175				+
	170	90						
	230	132						
р	310	160	555	365	275	37		
U	350	200	222	COC	2/5	57	Ŧ	Ŧ
	430	250						

How To Order



-	480V
	¥
	Mains Voltage

480\/ 600\/ 690V (210-1100A)

95-230V (A,B,C) 115V, 230V (D)

Comprehensive Protection Package

- Under voltage
- Phase sequence
- Sheer-pin current
- Under current
- overload classes (IEC, NEMA)
- Current imbalance
- Ground fault

- Excessive number of starts
- Excessive starting time
- Soft starter over temperature
- Programmable external fault
- Phase loss
- Inside delta wrong connection alarm



230V

24V

Control Voltage

Control Input Voltage 95-230VAC 24V DC

3P

Options

2P - 2-phase control

- ЗМ -Modbus
- 3P -Profibus
- Remote key pad D -
- Insulation test 4 -
- Analog output
- 3xRTD thermal sensor 6 -
- 8 -Conformal coating F115 - Fan unit 115VAC
- F230 Fan unit 230VAC

RVS-DN

Heavy Duty, Low Voltage Soft Starter 8-3,000A, 220-1,200V

The RVS-DN is a heavy duty, advanced, highly reliable Soft Starter, designed to operate under severe conditions starting the most demanding applications, such as those in Marine and Mining installations. Advanced features such as pump control, slow speed, electronic reverse and enhanced motor protection make it one of the best and most popular soft starters in the industry.

ADVANCED FEATURES

- Robust construction
- Highly advanced starting & stopping characteristics
- User friendly set up and operation
- Line or Inside delta connection
- Ambient operating temperature: up to 60°C
- Motor insulation tester
- Communication: Modbus, Profibus, DeviceNet, Thermistor input
- Analog output
- 45-65Hz Auto-tracking frequency range
- Can be operated without bypass contactor at 50°C up to 820A
- Designed to meet Marine Industry standards



Comprehensive Protection Package

- Too many starts & start inhibit time
- Long start time (Stall protection)
- Shear pin (jam) with adjustable delay
- Electronic overload with selectable curves
- Under current
- Phase loss
- Phase sequence and Under/Over frequency
- Under/Over voltage
- Load loss (motor not connected)
- External fault
- Shorted SCR
- Starter over temperature protection
- Motor insulation test (option)
- Motor thermistor (option)
- When using "Preparation for Bypass" all protections remains active

Soft Start and Soft Stop Functions

- Soft start and soft stop
- Soft, stepless acceleration & deceleration
- Current limiting
- Torque & current control for optimized acceleration and deceleration
- Pump control program
- Dual adjustment two start/stop characteristics
- Slow speed with electronic reverse
- Pulse start

MODELS | 8-3,000A, 220-690V

Medal	Rated Current	Motor kW	Unit Di	imension	s (mm)	
Model	(A)	@400V	Н	W	D	Weight (kg)
	8 4		4.5			
А	17	7.5				4.)
	31	15	310	153	170	6.0
A	44	22	510	133	170	
	58	30				7.5
	72	37				
	85	45				
В	105	55	385	274	238	14.5
D	145	75	202	274	230	14.5
	170	90	90			
	210*	110		1		
С	310*	160	455	380	292	32
	390*	200				
	460*	250	455	380	292	39
D	580	315	640	470	302	48
D	820	450	710	470	302	65
	950	560	660	623	290	83.5
	1,100	630	1,100	723	370	170
E	1,400	800				
	1,800	950	1,300	750	392	240
F	2,150	1,250				
	2,400	1,400				
G	2,700	1,575	1,300	900	410	350
	3,000	1,750				

* Dimensions differ with Marine approvals.

MODELS | 105-580A, 1,000-1,200V

Model	Dated Current (A)	Unit Dimensions (mm)			Moight (kg)
IVIOUEI	Rated Current (A)	Н	W	D	Weight (kg)
Н	105	400	325	300	20
	170				55
	210	500	592	345	
I	310				
	390				60
	460				00
J	580	650	650	400	85

How To Order



230V

Control Input Voltage 90-230VAC 24V AC/DC

48V AC/DC

3P

Options

- 3D DeviceNet
- 3M Modbus
- 3P Profibus
- 4 Insulation test
- 5 Analog output
- 8 Conformal coating
- 9 Preparation for Bypass contactor
- D Remote display
- M Marine approval (A-C)
- U UL standard (A-C)

RVS-DXM

Analog, Low Voltage Soft Starter 210-1100A, 208-690V

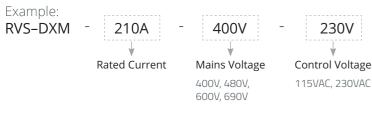
The RVS-DXM is a digital, highly reliable Soft Starter, providing advanced methods of reducing current and torque during motor starting. The RVS-DX/M is equipped with a digitally controlled internal bypass. The bypass closes at the end of the starting process in order to save power.



210-1100A, 208-690V MODELS

Model	Rated	Motor kW	Unit Di	Unit Dimensions (mm)		
wouer	Current (A)	@400V	Н	W	D	(kg)
	210	110				
А	240	135	643	365	277	40
	310	160				
	360	200				
В	414	230	631	510	298	41.5
	477	270				
С	515	290	691	480	302	46.7
D	590	330	791	480	302	55.5
E	720	400	791	510	305	60
L	840	480	791	510	505	UU
F	960	550	815	558	316	85
I	1100	630	015	550	510	U

How To Order



Advanced Features

- Internal bypass for the entire range
- Enhanced Soft Start and Soft Stop characteristics
- Communication: Modbus, Profibus, Devicenet
- Two-line, 16 character LCD screen displays actual values, statistical & maintenance data
- Frequency autotracking 45-65Hz

Protection Package:

- Too many starts & start inhibit
- Long start time (Stall protection)
- Electronic shear-pin (Jam) with adjustable curves and delay
- Electronic overload with selectable curves
- Under current
- Phase loss
- Phase sequence and under/over frequency

3M - Modbus, 3P - Profibus, 3D - DeviceNet

36 - 3 input bus bars on top and 6 input/output bus bars on bottom 63 - 3 input bus bars on bottom and 6 input/output bus bars on top

66 - 6 input bus bars on bottom and 6 input/output bus bars on top

33 - 3 inputs and 3 outputs bus bars

TIN - Tin Plated bus bars (opt. 33 only)

Under/over and no voltage

3M +

Options

5 - Analog output 8 - Conformal coating

D - Remote key pad

F - Unit supplied with fan

U - UL & CUL approval

- Load loss (motor not connected)
- External fault
- Shorted SCR
- Starter over temperature protection

RVS-AX

Analog, Low Voltage Soft Starter 8-170A, 220-600V

The RVS-AX provides an optimal solution for small to medium size motors and is an ideal cost effective replacement for Star- Delta and Auto-Transformer type starters. It is easy to install and operate with built-in Current Limit and Motor Protection, integral bypass and 3-phase control. Control voltage is not required to operate the RVS-AX

MODELS | 8-170A, 220-600V

Model	Rated	Motor kW	Unit Di	mension	s (mm)	Weight
Model	Current (A)	@400V	Н	W	D	(kg)
	8	4				
А	17	8	232	120	105	2.6
A	31	15	232			
	44	22				
В	58	25	275	129	185	5
U	72	37	215	125	105	5
C	85	45	380	120	185	8.4
C	105	55	500	120	105	0.4
D	145	75	380	172	195	11.8
U	170	90	000	172	221	11.0

Solstart

Compact, Analog, Low Voltage Soft Starter 8-58A, 220-600V

The Solstart is a compact, analog Soft Starter with 2-phase control, internal bypass and basic motor protection. The Solstart does not require control voltage to operate and is an ideal solution where space is limited.

MODELS | 8-58A, 220-600V

Model	Rated	Motor kW	Unit Di	mension	ıs (mm)	Weight	
wouer	Current (A)	@400V	Н	W	D	(kg)	
Α	8	3	75	45	110	0.42	
В	17	8	75	75	90	105	0.55
D	22	11	75	90	105	0.55	
	31	15					
С	44	22	190	65	114	1.3	
	58	25					

FFATURES

- Built-in motor protection
- Built-in bypass (31-170A)
- Soft start & soft stop
- Current limit
- Start / Stop with voltage free contact



How to Order

Example: 31A RVS-AX

Rated Current



Mains Voltage 230V, 400V, 440V, 480V 600V



8 - Conformal coating U - UL & CUL approval

FEATURES

- Built-in bypass
- Soft start & soft stop
- Start / Stop with voltage free contact
- End of acceleration contact
- Compact foot print
- DIN Rail mounting (8-22A)
- Suitable for single phase motor



How to Order

Example: Solstart - 31A

Rated Current



Mains Voltage 230V, 400V, 440V 480V, 600V



Options 8 - Conformal coating U - UL & CUL approval DRM - DIN rail mounting

Solbrake

DC Injection Brake 8-820A, 208-690V

The Solbrake electronic brake provides fast, smooth, frictionless braking of standard motors by injecting controlled DC current into the motor windings after the line contactor has opened. This DC current induces a stationary magnetic field which exerts a braking torque on the rotor.



- Reduces stopping time of high inertia loads
- Adjustable braking time
- Auto stop DC Injection stops when the motor stops
- DIN Rail mounting (Rated current 10A)
- Easy to install and simple to operate
- Reduced stopping time Increases production rate in machine tools and high inertia loads
- Reduced stopping time For increased safety of hazardous machines
- Soft, smooth stopping, preventing wear and tear of mechanical parts
- Adjustable braking torque, matching load size and required stop time
- Auto stop, reducing motor heating
- Maintenance free, highly reliable operation

MODELS | 8-820A, 208-690V

Model	Rated Current	Motor kW	Unit D	imension	s (mm)	Woight (kg)
INIOUEI	(A)	@400V	Н	W	D	Weight (kg)
А	10	5	75	45	105	0.7
	17	7.5				
В	31	15	190	65	114	1.4
	58	30				
C	105	55	280	154	160	5.2
C	210	90	200	1.04	100	5.7
	310	110				
D	390	160	384	224	224 222	12
	460	220				

How to Order

Example: Solbrake





Mains Voltage 230V, 400V, 480V, 600V, 690V

400V



8 - Conformal coating E - 30 sec braking time



Thyristor Power System **TPS** 8-1500A, 230-1200V

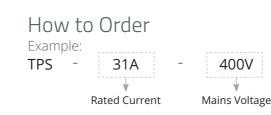
The TPS is a heavy duty single, 2 or 3-phase power unit for controlling the voltage applied to either inductive or resistive heating elements. It is a heavy duty, digital, zero crossing and phase control power system.

Models Up to 690VAC

Medel	Rated Motor kW		Unit Di	imension	s (mm)	Mainh (1/-)
Model	Current (A)	@400V	Н	VV	D	Weight (Kg)
	8	6				6.3
	17	12				6.3
А	31	21	291	172	185	6.4
A	44	30	231	172	105	6.5
	58 40			6.5		
	72	50			I I I	6.5
В	85	59	390	172	195	8.5
D	105	73	550	172		0.5
	145	100				
С	170	118	385	274	238	14.5
	210	145				1 1 1 1
D	310	215	455	380	292	31
D	390	270			-	
E	460	318	555	380	292	51
F	580	401	640	470	302	53
Г	820	567	640	470	302	53
	950	657		Con	sult Factory	
G	1100	761	: : :			
U	1400	969	1225	1050	471	172
	1500	1038	1225	1050	/ I	172

Models | 1200VAC

Rated Current	rent Motor kW Unit Dimensions (mm)				
(A)	@1000V	Н	W	D	Weight (kg)
55	95			346	
105	182	550	280		22.5
160	277	550	280		33.5
200	346				:



230V

400V, 480V, 600V, 690V, 1000V

400V

Control Voltage 115VAC, 230VAC 24VDC, 110VDC

230V

90-230VAC

24VAC, 48VAC

Control Input Voltage

3M

Optior	IS
ЗМ -	Modbus
D -	Remote key pad
5 -	Analog output
8 -	Conformal coating
D -	Remote Panel mounting
	Synchronization mode
P -	Potentiometer control



Advanced Features

- Range: 8-1500A, 230-1200V, 50/60Hz
- Zero crossing & phase control (field programmable)
- Comprehensive protection package
- Communication: Modbus, Profibus, DeviceNet
- Line and Inside delta connection
- Synchronized mode (up to 10 units)

PROTECTION & CONTROL RELAYS

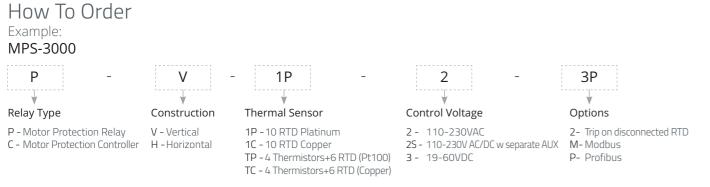
MPS 3000 Motor Protection and Control Relay

The MPS-3000 provides a comprehensive motor protection and control package. Monitoring 3-phase currents and voltage together with 10 RTD/Thermistor temperature inputs it provides an ideal solution for Medium and Large Low Voltage Motors



ADVANCED FEATURES

- Monitoring 3 temperature inputs, 3-phase current, voltage and energy
- Power measurement (3-phase voltage measurement)
- Statistical data of last 10 trips, with time and date stamp
- RTD bias for thermal overload
- Multiple Thermal Overload curves
- Too Many Starts pre alarm, configurable to energize dedicated output relay
- Capture and display of min and max RMS, average of 3-phase current, one voltage, min and max frequency
- Ground Fault setting during start elimination nuisance trip
- MODBUS communication
- Programmable discrete inputs/output
- 4 programmable analog outputs



Comprehensive Protection Package

ANSI/IEEE C37.2	PROTECTIONS	MPS 3000	MPS-6
3	Communication failure / Internal failure		\checkmark
27	Under-voltage		
32L/R	Under Power Level 1/2		
37	Under current Level 1/2		
38	Bearing over Temperature	-	
46	Current Imbalance Level 1/2		
47	Phase sequence/loss		
48	Max. Start Time		
49T	RTD Over temperature		
49R	High Temp. Level 1/2, sensors 1-10		

ANSI/IEEE C37.2	PROTECTIONS	MPS 3000	MPS-6
49/51	Thermal Capacity Level 1		\checkmark
50	Over Current Level 2 - Short	\checkmark	\checkmark
50G	Ground Fault Level during starting	\checkmark	\checkmark
50G/N	Ground Fault Level 1/2	\checkmark	\checkmark
51L	Load Increase - Alarm	\checkmark	\checkmark
51R	Over Current Level 1 - Jam	\checkmark	\checkmark
55	Lead / Lag PF / Low Power Factor	\checkmark	\checkmark
59	Over-voltage Level 1/2	\checkmark	\checkmark
66	Too Many Starts Level 1	-	\checkmark
74	Welded contactor (MPS 3000c)	\checkmark	\checkmark



Motor Protection System

The MPS-6 is a Motor Protection System that offers protection, control and supervision for Low Voltage high power motors and is also suitable for motors operating in a Motor Control Center (MCC).

ADVANCED FEATURES

- Monitoring 3-phase currents, single phase voltage and 3 temperature inputs
- Power measurement (single phase voltage measurement)
- Statistical data of last 10 trips with time and date stamp
- RTD Bias for thermal overload
- Multiple Thermal Overload curves
- Too Many Starts pre alarm, configurable to energize dedicated output relay



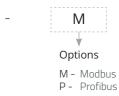
MODELS

MPS-3000

Madal	Unit I				
Model	Н	W	D	Weight (kg)	
Vertical	310	134	140	2.1	
Horizon	140	310	134	3.1	



- No Start Process starting method, allowing switching to run, if I>= 10%
- Capture and display of min and max RMS average of 3-phase current, one voltage, min and max frequency
- Ground Fault setting during start elimination nuisance trip
- MODBUS communication (up to 19200 bps) Remote parameter programming, control & supervision
- 6 programmable discrete inputs and outputs



MPS-6

Model	Unit I	Moight (kg)		
Model	Н	W	D	Weight (kg)
Vertical	310	134	140	3.1

TPR-6 Temperature Protection Relay

The TPR-6 Temperature Protection Relay is designed to protect electric motors, transformers and other systems from overheating. The TPR-6 has up to 14 temperature inputs that can be programmed to measure thermistors (PTC or NTC) and RTDs (Pt100).

ADVANCED FEATURES

- Advanced Features:
- Advanced microprocessor based circuitry
- Display of operating RTD or Thermistor Data, Fault and Statistics
- Programmable inputs and outputs
- RS-485 communication with MODBUS protocol
- Easy installation and friendly operation
- Two level protection for Alarm and Trip
- Selection between Trip and Trip fail-safe
- Analog output related to any input or input combinations
- RTD / Thermistor selection RTDs 100 ohm Platinum (PT100) -Thermistor - PTC or NTC
- Disconnected sensor protection

Protection Features

- RTD / Thermistor with two levels for each input
- Thermistor PTC / NTC selection
- Over temperature Alarm and Trip to each input
- Continuous analog output signal
- External fault 1 and 2

Protection Functions

• Exact input can be assigned to any of the following items:

TPR - 6 Temperature Protection Rela

on ostart ⊕ elarm ⊕ fault ●

SOLCO

- Alarm only Relay A
- Trip only Relay B
- Fan (Trip, Alarm)- Relay C
- Trip/Alarm- Relay D
- Enabling Auto Reset

MODELS

Model	Unit Dimensions (mm)			\A/a;=h+/l/=)
	Н	W	D	Weight (kg)
TPR-6	144	96	107	0.8

How To Order

Example:



6 - 6 Temperature Inputs 14 - 14 Temperature Inputs

: NЛ	
101	- i -
•	

Options 8 - Conformal coating M - Modbus

MIP-6

Motor Insulation Protection Relay Low/Medium Voltage Motors

The MIP-6 monitors the level of deterioration in the insulation of Low and Medium Voltage Motors. It measures the motor's insulation resistance and displays the actual and average highs and lows over a predefined period of time.

Two types of units available:

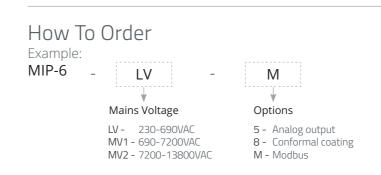
- Low Voltage
- Medium Voltage with an additional resistor box (up to 15kV Medium Voltage motors)

ADVANCED FEATURES

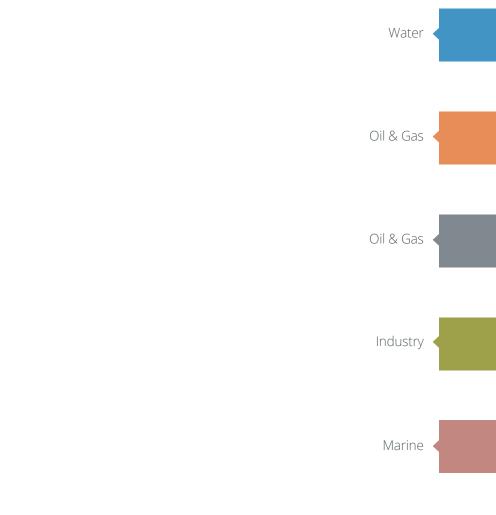
- Monitors insulation deterioration of Low / Medium Voltage motors
- Displays the present and average insulation resistance on LCD
- Monitoring while motors are de-energized
- Programmable parameters
- Microprocessor based technology
- Alarm / Trip Setpoint in the range of 0.1 to 60 Mega Ohms
- Utilizes up to 48 VDC test voltage to increase personnel safety
- Illuminated LCD display with 2 lines of 16 characters each
- Six keys for easy programming
- Three LEDs for easy status indication
- Deterioration monitoring by storing history with time stamp
- Unauthorized parameter modification prevention
- Four C/O 8 Amp., 250V programmable signaling relays
- Optional analog 0/4-20mA output for remote reading
- Optional Modbus communication
- Control Voltage: 85-230VDC/AC (50/60Hz)
- Operating Temperature Range 0°C to +50°C (default all units) -10°C to +60°C (optional)

MODELS

Model	Unit Di	imension	Maight (kg)	
	Н	W	D	Weight (kg)
MIP-6	144	96	107	0.5









For additional product information please contact us **W: www.solcon.com, E: contact@solcon.com**

