



# PRODUCT GUIDE

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# CONTENTS

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|   |       |
|---|-------|
| <b>Company Profile</b> .....                                    | 4-5   |
| <b>Medium Voltage Products</b>                                  |       |
| 1. HRVS-DN      Medium Voltage Soft Starter .....               | 6-7   |
| 2. DriveStart    IGBT Based Medium Voltage Soft Starter .....   | 8-9   |
| 3. HRVS-TX      Medium Voltage Inrush Current Limiter .....     | 10    |
| 4. MV-TPS        Medium Voltage Thyristor Power System .....    | 11    |
| <b>Low Voltage Products</b>                                     |       |
| 1. iStart          Advanced, Low Voltage Soft Starter.....      | 12-13 |
| 2. RVS-DN        Heavy Duty, Low Voltage Soft Starter.....      | 14-15 |
| 3. RVS-DXM      Digital, Low Voltage Soft Starter .....         | 16    |
| 4. RVS-AX        Analog, Low Voltage Soft Starter .....         | 17    |
| 5. Solstart       Compact, Analog Low Voltage Soft Starter..... | 17    |
| 6. Solbrake      DC Injection Brake .....                       | 18    |
| 7. TPS            Low Voltage Thyristor Power System .....      | 19    |
| <b>Protection and Control Relays</b>                            |       |
| 1. MPS-3000     Motor Protection and Control Relay .....        | 20    |
| 2. MPS-6         Motor Protection System .....                  | 21    |
| 3. TPR-6         Temperature Protection Relay .....             | 22    |
| 4. MIP-6         Motor Insulation Protection Relay .....        | 23    |



# 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 Control Products. By using advanced technology, based on continuous field research, Solcon implements the highest quality criteria, guaranteeing long-term 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, EAC, Lloyds, Germanischer Lloyds, DNV, BV, ABS, RINA, KR, NK-Class, RMRS, CCS and other approvals are also available.

## Meeting your needs across Industries

|  |  |   |  |   |
|--|--|---|--|---|
| <br>WATER | <br>OIL & GAS | <br>INDUSTRY | <br>MINING | <br>MARINE |
|           |               |              |           |            |



DYNAMIC,  
HIGH-TECH  
POWER-  
ELECTRONICS

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

Standards



# 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.



## 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 for complete isolation between Low and Medium Voltage sections
- Partial Discharge test according to EN50178/625.1
- 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 - An Integrated 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 multi-current starting

## Integral Protections

- Bypass open
- Under Voltage
- Under current
- Current unbalance
- Phase sequence
- Maximum start time
- Electronic overload
- Instantaneous over current 100-850%
- Time over current
- Ground fault
- Over Voltage
- Number of starts
- Under/over frequency
- External fault
- Power ON no start
- Thermal modeling
- Phase loss
- Shorted SCR
- Over load class trip



## 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, designed for uncompromising protection and performance.

### Type Tested Data:

- Rated: up to 12kV, 1250A
- Internal Arc Test 31.5kA/1sec, IAC: A-FLR
- Short-time withstand current 31.5kA/3sec
- Dielectric Test - Power Frequency 28kV 60sec  
- Impulse voltage 75kV
- Temperature Rise Test
- IP54 Protection Degree

### Models | 2.3-15kV, 60-1,800A

| Mains Voltage (kV) | Rated Current (A) | Moto kW (kW) | Mains Voltage (kV) | Rated Current (A) | Moto kW (kW) | Mains Voltage (kV) | Starter Current (A) | Motor kW (kW) | Mains Voltage (kV) | Starter Current (A) | Motor kW (kW) |
|--------------------|-------------------|--------------|--------------------|-------------------|--------------|--------------------|---------------------|---------------|--------------------|---------------------|---------------|
| 2.3                | 60                | 200          | 4.16               | 60                | 360          | 10                 | 70                  | 1,020         | 11                 | 70                  | 1,100         |
|                    | 110               | 360          |                    | 110               | 660          |                    | 140                 | 2,040         |                    | 140                 | 2,200         |
|                    | 200               | 660          |                    | 200               | 1,200        |                    | 250                 | 3,650         |                    | 250                 | 4,000         |
|                    | 320               | 1,060        |                    | 320               | 1,930        |                    | 300                 | 4,300         |                    | 300                 | 4,800         |
|                    | 400               | 1,330        |                    | 400               | 2,410        |                    | 400                 | 5,800         |                    | 400                 | 6,400         |
|                    | 500               | 1,660        |                    | 500               | 3,010        |                    | 500                 | 7,250         |                    | 500                 | 8,000         |
|                    | 600               | 2,000        |                    | 600               | 3,610        |                    | 600                 | 8,700         |                    | 600                 | 9,600         |
|                    | 700               | 2,300        |                    | 700               | 4,210        |                    | 700                 | 10,150        |                    | 700                 | 11,200        |
|                    | 800               | 2,660        |                    | 800               | 4,820        |                    | 800                 | 11,600        |                    | 800                 | 12,800        |
|                    | 1,000             | 3,330        |                    | 1,000             | 6,030        |                    | 1,000               | 14,500        |                    | 1,000               | 16,000        |
| 3.3                | 60                | 280          | 6.6                | 70                | 670          | 13.8               | 1,200               | 17,400        | 13.8               | 70                  | 1,400         |
|                    | 110               | 520          |                    | 140               | 1,340        |                    | 1,400               | 22,000        |                    | 140                 | 2,800         |
|                    | 200               | 950          |                    | 250               | 2,390        |                    | 1,600               | 25,000        |                    | 250                 | 5,000         |
|                    | 320               | 1,530        |                    | 300               | 2,870        |                    | 1,800               | 28,000        |                    | 300                 | 6,000         |
|                    | 400               | 1,910        |                    | 400               | 3,820        |                    |                     |               |                    | 400                 | 8,000         |
|                    | 500               | 2,390        |                    | 500               | 4,780        |                    |                     |               |                    | 500                 | 10,000        |
|                    | 600               | 2,850        |                    | 600               | 5,736        |                    |                     |               |                    | 600                 | 12,000        |
|                    | 700               | 3,325        |                    | 700               | 6,740        |                    |                     |               |                    | 700                 | 14,000        |
|                    | 800               | 3,820        |                    | 800               | 7,650        |                    |                     |               |                    | 800                 | 16,000        |
|                    | 1,000             | 4,780        |                    | 1,000             | 9,570        |                    |                     |               |                    | 1,000               | 20,000        |
|                    |                   | 1,200        | 11,500             |                   |              | 1,200              | 24,000              |               |                    |                     |               |
|                    |                   | 1,400        | 14,000             |                   |              | 1,000              | 20,000              |               |                    |                     |               |
|                    |                   | 1,600        | 16,000             |                   |              | 1,200              | 24,000              |               |                    |                     |               |
|                    |                   | 1,800        | 18,000             |                   |              |                    |                     |               |                    |                     |               |

### How To Order

Example:

HRVS-DN - 1000A - 3.3kV - 230V - 230V - 3P

Rated Current

Mains Voltage

Control Voltage

Control Input Voltage

Options

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

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

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

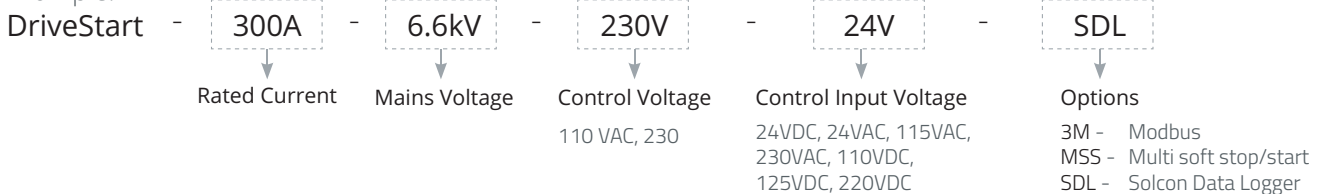


## Models | Up to 6.6KV, 500A

| Mains Voltage (kV) | Rated Current (A) | Unit Dimensions (cm) |     |     | Weight (kg) |
|--------------------|-------------------|----------------------|-----|-----|-------------|
|                    |                   | H                    | W   | D   |             |
| 3.3                | 300               | 230                  | 202 | 132 | 2,000       |
|                    | 400               |                      |     |     |             |
| 4.16               | 300               |                      |     |     |             |
|                    | 400               |                      |     |     |             |
| 6.6                | 300               | 230                  | 220 | 240 | 4,000       |
|                    | 400               |                      | 440 | 120 |             |

## How To Order

Example:



# 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)

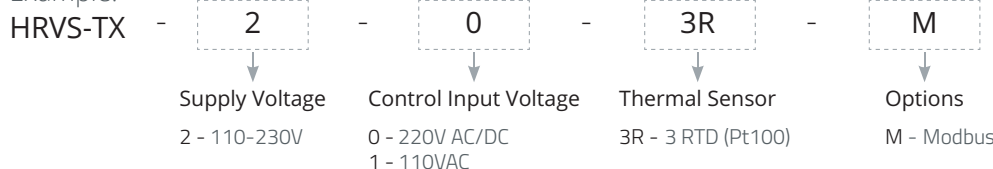
## Models | Up to 36kV, 100MVA

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

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

## How To Order

Example:



# 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 Medium Voltage heating applications. Using Medium Voltage drastically reduces the amount of cable required, the size of the heating elements, 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

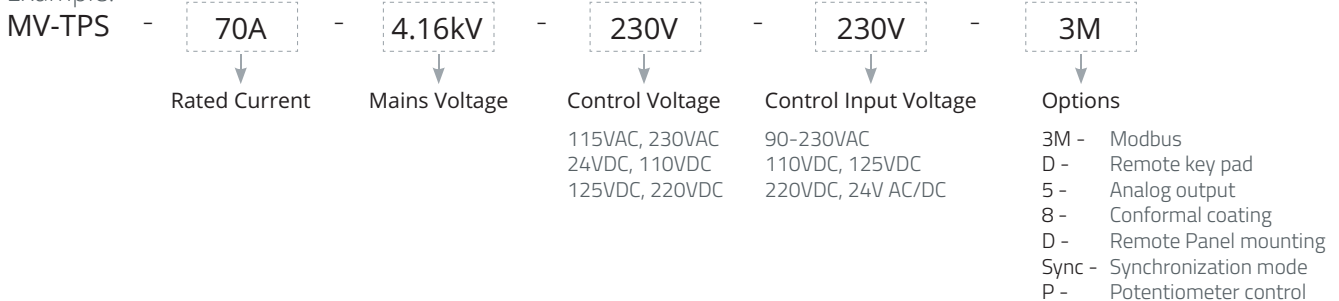
\*Patent pending

## Models | Up to 13.8kV, 500A

| Mains Voltage (kV) | Rated Current (A) | Heater kW @6.6kV | Unit Dimensions (mm) |       |     |
|--------------------|-------------------|------------------|----------------------|-------|-----|
|                    |                   |                  | H                    | W     | D   |
| 4.16               | 70                | 2000             | 1,573                | 1,032 | 685 |
|                    | 140               |                  |                      |       |     |
|                    | 300               |                  |                      |       |     |
|                    | 500               | 1000             |                      |       |     |
| 6.6                | 70                | Consult Factory  |                      |       |     |
| 11                 | 140               |                  |                      |       |     |
| 13.8               | 300               |                  |                      |       |     |
|                    | 500               |                  |                      |       |     |

## How To Order

Example:



# LOW VOLTAGE PRODUCTS

## iStart

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

## 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

## 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)



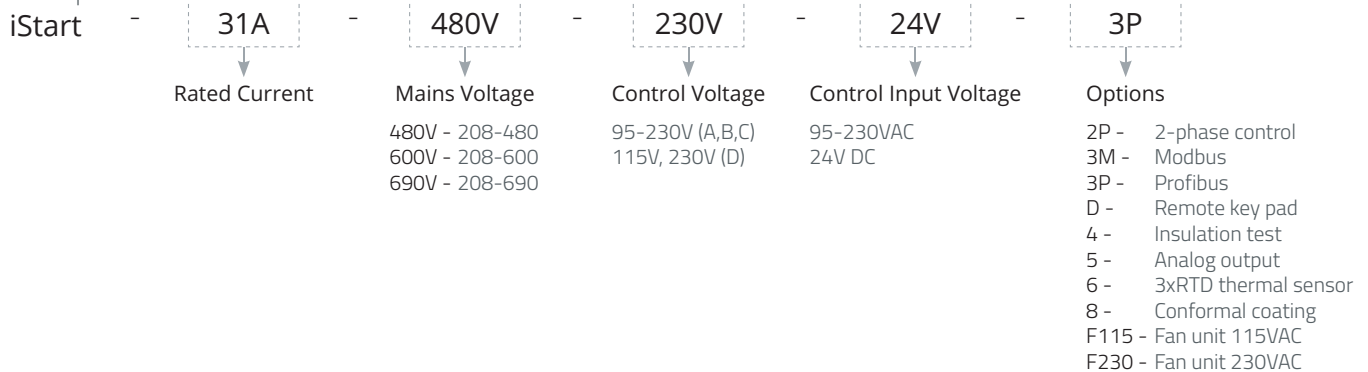
iStart size A, B, C

## Models | 17-430A, 208-690V

| Model | Rated Current (A) | Motor kW @400V | Unit Dimensions (mm) |     |     | Weight (kg) | Internal Bypass | 2 or 3-Phase Control |
|-------|-------------------|----------------|----------------------|-----|-----|-------------|-----------------|----------------------|
|       |                   |                | H                    | W   | D   |             |                 |                      |
| A     | 17                | 7.5            | 245                  | 122 | 147 | 3.2         | +               | +                    |
|       | 31                | 15             |                      |     |     |             |                 |                      |
|       | 44                | 22             |                      |     |     |             |                 |                      |
| B     | 58                | 30             | 275                  | 132 | 208 | 5.2         | +               | +                    |
|       | 72                | 37             |                      |     |     |             |                 |                      |
|       | 85                | 45             |                      |     |     |             |                 |                      |
| C     | 105               | 55             | 388                  | 175 | 234 | 10.9        | +               | +                    |
|       | 145               | 75             |                      |     |     |             |                 |                      |
|       | 170               | 90             |                      |     |     |             |                 |                      |
| D     | 230               | 132            | 555                  | 365 | 275 | 37          | +               | +                    |
|       | 310               | 160            |                      |     |     |             |                 |                      |
|       | 350               | 200            |                      |     |     |             |                 |                      |
| E     | 430               | 250            | 643                  | 365 | 284 | 41          | +               | +                    |

## How To Order

Example:



# 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

| Model | Rated Current (A) | Motor kW @400V | Unit Dimensions (mm) |     |     | Weight (kg) |
|-------|-------------------|----------------|----------------------|-----|-----|-------------|
|       |                   |                | H                    | W   | D   |             |
| A     | 8                 | 4              | 310                  | 153 | 170 | 4.5         |
|       | 17                | 7.5            |                      |     |     | 6.0         |
|       | 31                | 15             |                      |     |     | 7.5         |
|       | 44                | 22             |                      |     |     |             |
|       | 58                | 30             |                      |     |     |             |
| B     | 72                | 37             | 385                  | 274 | 238 | 14.5        |
|       | 85                | 45             |                      |     |     |             |
|       | 105               | 55             |                      |     |     |             |
|       | 145               | 75             |                      |     |     |             |
| C     | 170               | 90             | 455                  | 380 | 292 | 32          |
|       | 210*              | 110            |                      |     |     |             |
|       | 310*              | 160            |                      |     |     |             |
| D     | 390*              | 200            | 455                  | 380 | 292 | 39          |
|       | 460*              | 250            |                      |     |     | 48          |
|       | 580               | 315            |                      |     |     | 65          |
|       | 820               | 450            |                      |     |     | 83.5        |
| E     | 950               | 560            | 1,100                | 723 | 370 | 170         |
|       | 1,100             | 630            |                      |     |     |             |
|       | 1,400             | 800            |                      |     |     |             |
| F     | 1,800             | 950            | 1,300                | 750 | 392 | 240         |
|       | 2,150             | 1,250          |                      |     |     |             |
| G     | 2,400             | 1,400          | 1,300                | 900 | 410 | 350         |
|       | 2,700             | 1,575          |                      |     |     |             |
|       | 3,000             | 1,750          |                      |     |     |             |

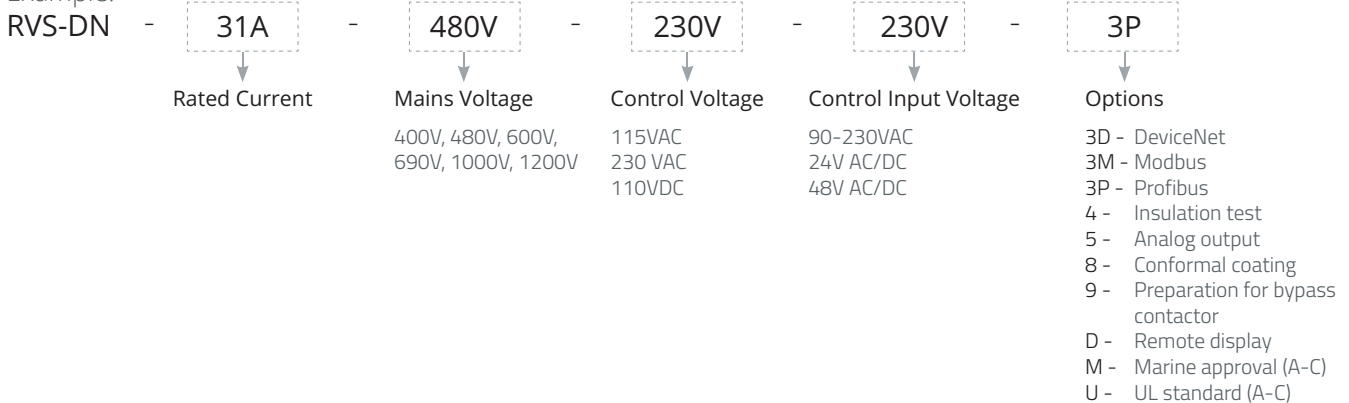
\* Dimensions differ with Marine approvals.

## Models | 105-580A, 1,000-1,200V

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

## How To Order

Example:



# RVS-DXM

Digital, 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.



## Models | 210-1100A, 208-690V

| Model | Rated Current (A) | Motor kW @400V | Unit Dimensions (mm) |     |     | Weight (kg) |
|-------|-------------------|----------------|----------------------|-----|-----|-------------|
|       |                   |                | H                    | W   | D   |             |
| A     | 210               | 110            | 643                  | 365 | 277 | 40          |
|       | 240               | 135            |                      |     |     |             |
|       | 310               | 160            |                      |     |     |             |
| B     | 360               | 200            | 631                  | 510 | 298 | 41.5        |
|       | 414               | 230            |                      |     |     |             |
|       | 477               | 270            |                      |     |     |             |
| C     | 515               | 290            | 691                  | 480 | 302 | 46.7        |
| D     | 590               | 330            | 791                  | 480 | 302 | 55.5        |
| E     | 720               | 400            | 791                  | 510 | 305 | 60          |
|       | 840               | 480            |                      |     |     |             |
| F     | 960               | 550            | 815                  | 558 | 316 | 85          |
|       | 1100              | 630            |                      |     |     |             |

## 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
- Under/over and no voltage
- Load loss (motor not connected)
- External fault
- Shorted SCR
- Starter over temperature protection

## How To Order

Example:

RVS-DXM

- 210A

Rated Current

- 400V

Mains Voltage

400V, 480V,  
600V, 690V

- 230V

Control Voltage

115VAC, 230VAC

- 3M

Options

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

5 - Analog output

8 - Conformal coating

33 - 3 inputs and 3 outputs bus bars

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

D - Remote key pad

F - Unit supplied with fan

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

U - UL & CUL approval



## 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

### FEATURES

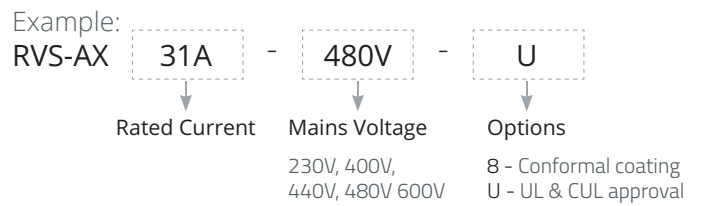
- Built-in motor protection
- Built-in bypass (31-170A)
- Soft start & soft stop
- Current limit
- Start / Stop with voltage free contact



### Models | 8-170A, 220-600V

| Model | Rated Current (A) | Motor kW @400V | Unit Dimensions (mm) |     |     | Weight (kg) |
|-------|-------------------|----------------|----------------------|-----|-----|-------------|
|       |                   |                | H                    | W   | D   |             |
| A     | 8                 | 4              | 232                  | 120 | 105 | 2.6         |
|       | 17                | 8              |                      |     |     |             |
|       | 31                | 15             |                      |     |     |             |
|       | 44                | 22             |                      |     |     |             |
| B     | 58                | 25             | 275                  | 129 | 185 | 5           |
|       | 72                | 37             |                      |     |     |             |
| C     | 85                | 45             | 380                  | 120 | 185 | 8.4         |
|       | 105               | 55             |                      |     |     |             |
| D     | 145               | 75             | 380                  | 172 | 195 | 11.8        |
|       | 170               | 90             |                      |     |     |             |

### How to Order



## 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.

### Features

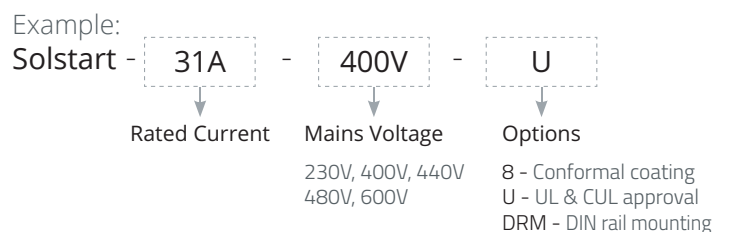
- Built-in bypass
- Soft start & soft stop
- Start / Stop with voltage free contact
- End of acceleration contact
- Compact foot print
- DIN Rail mounting (8-22A)
- Suitable for single phase motor



### Models | 8-58A, 220-600V

| Model | Rated Current (A) | Motor kW @400V | Unit Dimensions (mm) |    |     | Weight (kg) |
|-------|-------------------|----------------|----------------------|----|-----|-------------|
|       |                   |                | H                    | W  | D   |             |
| A     | 8                 | 3              | 75                   | 45 | 110 | 0.42        |
| B     | 17                | 8              | 75                   | 90 | 105 | 0.55        |
|       | 22                | 11             |                      |    |     |             |
| C     | 31                | 15             | 190                  | 65 | 114 | 1.3         |
|       | 44                | 22             |                      |    |     |             |
|       | 58                | 25             |                      |    |     |             |

### How to Order



# 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.



## Advanced Features

- 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 (A) | Motor kW @400V | Unit Dimensions (mm) |     |     | Weight (kg) |
|-------|-------------------|----------------|----------------------|-----|-----|-------------|
|       |                   |                | H                    | W   | D   |             |
| A     | 10                | 5              | 75                   | 45  | 105 | 0.7         |
| B     | 17                | 7.5            | 190                  | 65  | 114 | 1.4         |
|       | 31                | 15             |                      |     |     |             |
| C     | 58                | 30             | 280                  | 154 | 160 | 5.2         |
|       | 105               | 55             |                      |     |     |             |
| D     | 210               | 90             | 384                  | 224 | 222 | 12          |
|       | 310               | 110            |                      |     |     |             |
|       | 390               | 160            |                      |     |     |             |
| E     | 460               | 220            | 384                  | 224 | 222 | 13.2        |
|       | 820               | 470            |                      |     |     |             |

## How to Order

Example:

Solbrake

- **31A**  
↓  
Rated Current

- **400V**  
↓  
Mains Voltage  
230V, 400V, 480V,  
600V, 690V

- **8**  
↓  
Options  
8 - Conformal coating  
E - 30 sec braking time

# TPS

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

The TPS is a heavy duty 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

| Model | Rated Current (A) | Load kW @400V | Unit Dimensions (mm) |      |     | Weight (Kg) |
|-------|-------------------|---------------|----------------------|------|-----|-------------|
|       |                   |               | H                    | W    | D   |             |
| A     | 8                 | 6             | 291                  | 172  | 185 | 6.3         |
|       | 17                | 12            |                      |      |     | 6.3         |
|       | 31                | 21            |                      |      |     | 6.4         |
|       | 44                | 30            |                      |      |     | 6.5         |
|       | 58                | 40            |                      |      |     | 6.5         |
|       | 72                | 50            |                      |      |     | 6.5         |
| B     | 85                | 59            | 390                  | 172  | 195 | 8.5         |
|       | 105               | 73            |                      |      |     | 8.5         |
| C     | 145               | 100           | 385                  | 274  | 238 | 14.5        |
|       | 170               | 118           |                      |      |     | 14.5        |
| D     | 310               | 215           | 455                  | 380  | 292 | 31          |
|       | 390               | 270           |                      |      |     | 31          |
| E     | 460               | 318           | 555                  | 380  | 292 | 51          |
| F     | 580               | 401           | 640                  | 470  | 302 | 53          |
|       | 820               | 567           |                      |      |     | 53          |
| G     | 950               | 657           | Consult Factory      |      |     |             |
|       | 1100              | 761           |                      |      |     |             |
|       | 1400              | 969           | 1225                 | 1050 | 471 | 172         |
|       | 1500              | 1038          |                      |      |     |             |

## Advanced Features

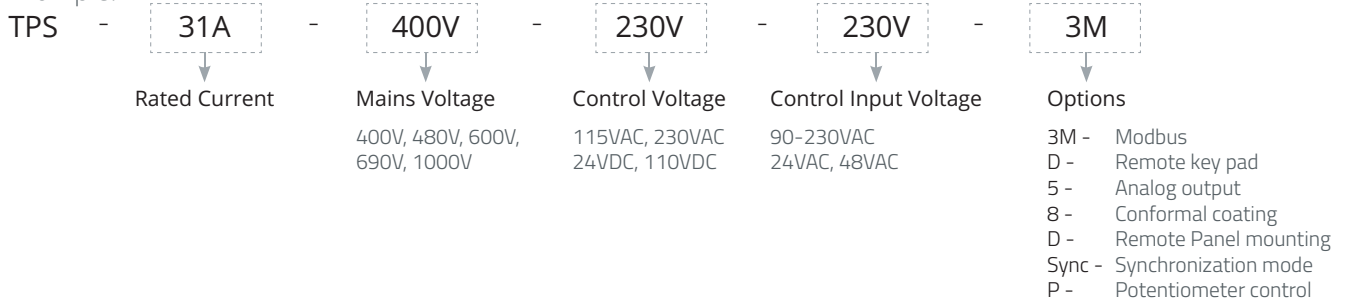
- Range: 8-1500A, 230-1200V, 50/60Hz
- Zero crossing & phase control (field programmable)
- Comprehensive protection package
- Communication: Modbus, Profibus, DeviceNet
- Line and Inside delta connection
- Synchronized mode (up to 10 units)

## Models | 1200VAC

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

## How to Order

Example:



# 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



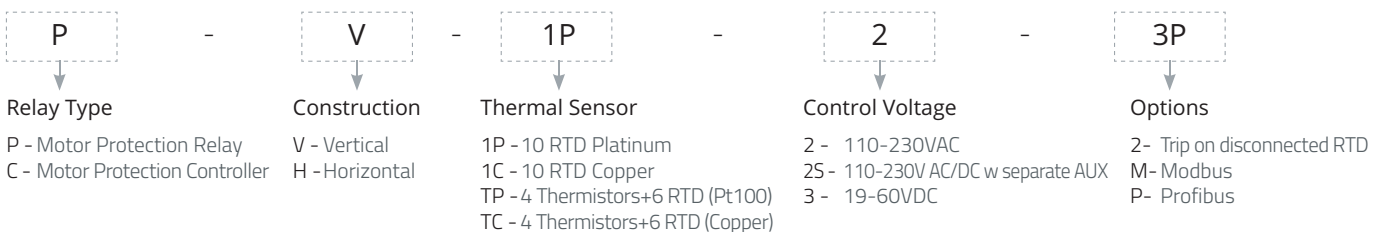
### Advanced Features

- 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, remote parameter programming, control and supervision.
- Programmable discrete inputs/output
- 4 programmable analog outputs

### How To Order

Example:

**MPS-3000**



### Comprehensive Protection Package

| ANSI/IEEE C37.2 | PROTECTIONS                              | MPS 3000 | MPS-6 |
|-----------------|--|----------|-------|
| 3               | Communication failure / Internal failure | ✓        | ✓     |
| 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           | ✓        | ✓     |
| 50              | Over Current Level 2 - Short       | ✓        | ✓     |
| 50G             | Ground Fault Level during starting | ✓        | ✓     |
| 50G/N           | Ground Fault Level 1/2             | ✓        | ✓     |
| 51L             | Load Increase - Alarm              | ✓        | ✓     |
| 51R             | Over Current Level 1 - Jam         | ✓        | ✓     |
| 55              | Lead / Lag PF / Low Power Factor   | ✓        | ✓     |
| 59              | Over-voltage Level 1/2             | ✓        | ✓     |
| 66              | Too Many Starts Level 1            | ✓        | -     |
| 74              | Welded contactor (MPS 3000c)       | ✓        | ✓     |

# MPS-6 | 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).

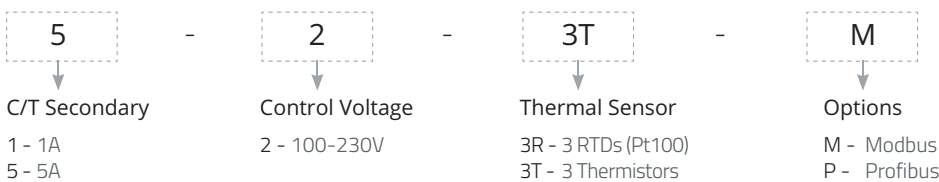


## Advanced Features

- 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
- No Start Process - starting method, allowing switching to run, if I<sub>r</sub> ≥ 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 and supervision
- 6 programmable discrete inputs and outputs

## How To Order

Example:  
MPS-6



## MODELS

### MPS-3000

| Model    | Unit Dimensions (mm) |     |     | Weight (kg) |
|----------|----------------------|-----|-----|-------------|
|          | H                    | W   | D   |             |
| Vertical | 310                  | 134 | 140 | 3.1         |
| Horizon  | 140                  | 310 | 134 |             |

### MPS-6

| Model | Unit Dimensions (mm) |    |     | Weight (kg) |
|-------|----------------------|----|-----|-------------|
|       | H                    | W  | D   |             |
| MPS-6 | 144                  | 96 | 107 | 1.5         |

# 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

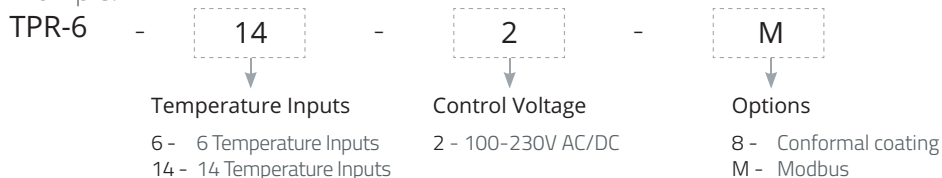
- Exact input can be assigned to any of the following items:
  - Alarm only - Relay A
  - Trip only - Relay B
  - Fan (Trip, Alarm)- Relay C
  - Trip/Alarm- Relay D
  - Enabling Auto Reset

## Models

| Model | Unit Dimensions (mm) |    |     | Weight (kg) |
|-------|----------------------|----|-----|-------------|
|       | H                    | W  | D   |             |
| TPR-6 | 144                  | 96 | 107 | 0.8         |

## How To Order

Example:



# 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

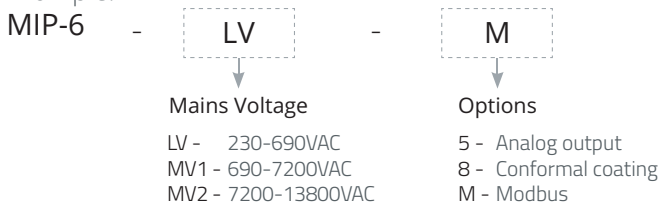
- Monitors insulation deterioration of Low / Medium Voltage motors
- Displays the present and average insulation resistance on LCD
- Monitoring while motors are de-energized
- Programmable parameters
- Microprocessor based technology
- Alarm / Trip Setpoint in the range of 0.1 to 60 Mega Ohms
- Utilizes 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 Dimensions (mm) |    |     | Weight (kg) |
|-------|----------------------|----|-----|-------------|
|       | H                    | W  | D   |             |
| MIP-6 | 144                  | 96 | 107 | 0.5         |

## How To Order

Example:



Water



Oil & Gas



Industry



Mining



Marine



Solcon Industries Ltd.

 | [www.solcon.com](http://www.solcon.com)  | [contact@solcon.com](mailto:contact@solcon.com)



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