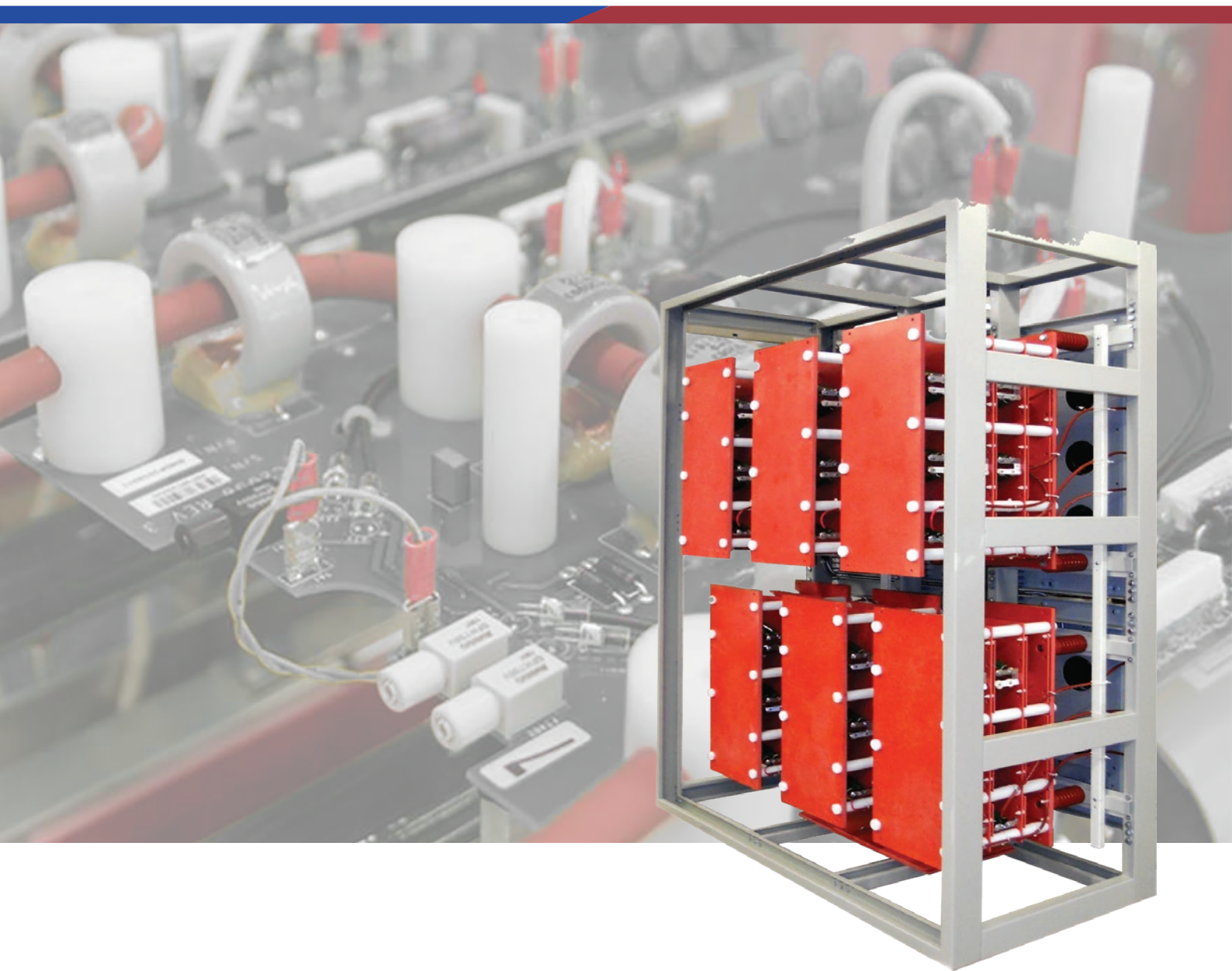


HRVS-DN

Medium Voltage Soft Starter

The starting solution of choice even under the most demanding conditions

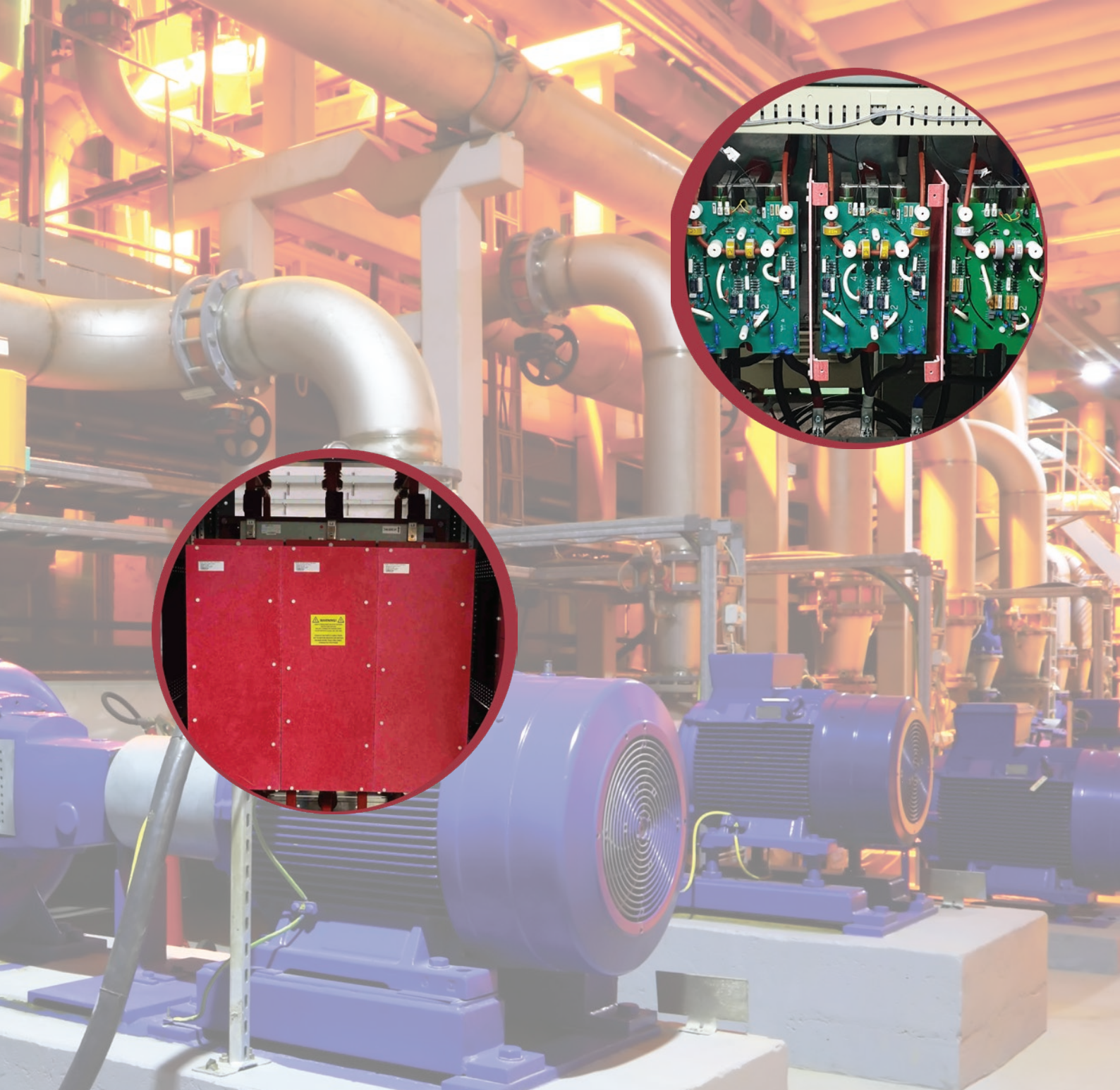


SOLCON
IGEL  **POWERED**



The **HRVS-DN** is a heavy-duty medium voltage soft starter, designed for all medium voltage AC induction motors. 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.





HEAVY DUTY Medium Voltage Soft Starter

Rated operational current: 60 to 2,500 A

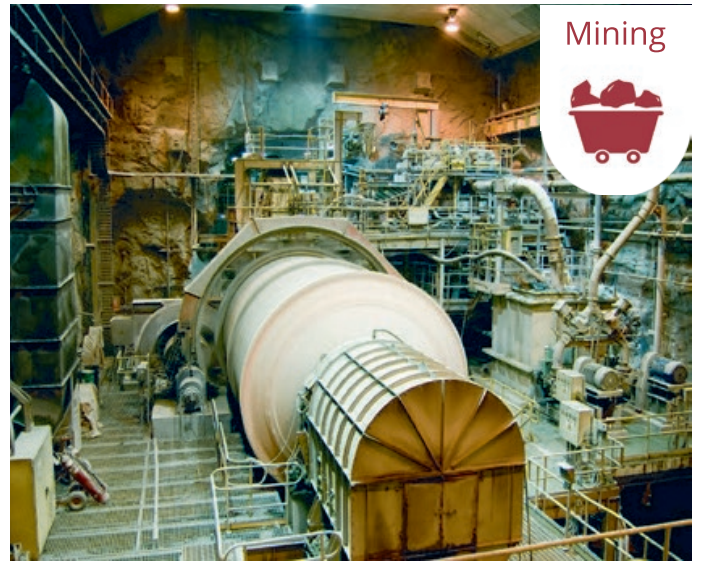
Main voltage: 2.3kV – 13.8kV



Water



- » Pumps
- » Water Pumps
- » Sewage Pumps



Mining



- » Pumps
- » Conveyors
- » Compressors
- » Fans
- » Ball Mills
- »And More



Process



- » Pumps
- » Conveyors
- » Compressors
- » Hydr' Power Packs
- » Mixers
- »And More



Marine



- » Pumps
- » Chillers
- » Thrusters
- » Propulsion Motors



Oil & Gas



- » Pumps
- » Compressors
- » Fans



HVAC



- » Pumps
- » Fans
- » Chillers

Advanced features include customizable starting curves, unique voltage and current measurements, as well as monitoring capabilities. The flexible design, enhanced motor protection and a superior global reputation 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 the requirements of new applications, retrofits and OEM customization. It is available with Marine approvals and with Solcon-IGEL's fully Type Tested Arc Resistant switchgear.

Advantages at a glance



Full range from
60A - 2,500A



Up to 50°C
ambient
temperature



Wide range
auto-frequency
tracking



Automatic firing
angle triggering
(marine, offshore
& generator
operation)



Unique fiber-optic
firing system



User friendly
configuration &
operation



Reduces mechanical stress by providing smooth starts (and stops), thus prolonging motor life.



Minimizes the stress on transformers, power line and motor rotor/stator and reduces voltage drop.



Productivity efficiency can be greatly increased by the reduction of costs due to avoided downtime.



Lower energy costs due to the reduction in energy consumption and higher productivity with much less investment in maintenance.

Features

- » Configurable start / stop characteristics
- » Enhanced motor protection package
- » User friendly setup and operation
- » Multi-soft start and multi-soft stop
- » Unique module synchronous motor starting
- » Pump and load control
- » Advanced Electronic Current & Potential Transformer (EPT) - utilizes fiber optics for complete isolation between low and medium voltage sections
- » Partial Discharge test (EN50178/625.1)
- » Direct Power Factor Capacitor connection
- » 45-65Hz Auto-tracking frequency range
- » Easy to conduct Low Voltage test
- » EMC compliant design and tested
- » Various communication options
- » Compact 2-phase control configuration (optional)
- » Fault recorder - real-time clock included
- » Data Logger – An integrated current and voltage wave recorder with sampling rate of up to 50kHz and advanced graphic software interface for remote waveform monitoring (optional)
- » Multi-language interface

Integral Protections

- » Bypass open
- » Under Voltage
- » Under current
- » Current unbalance
- » Phase sequence
- » Maximum start time
- » Electronic overload
- » Inst. 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
- » Overload class trip

START YOUR MOTOR SOFTLY

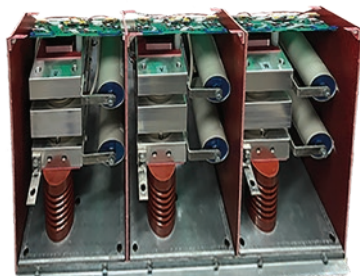
HRVS-DN - Type Tested Switchgear & IP00 Kit

The HRVS-DN switchgear cabinet is a fully type tested arc resistant according to **IEC 62271-200**. It adheres to the highest safety standards and provides superior protection and performance.

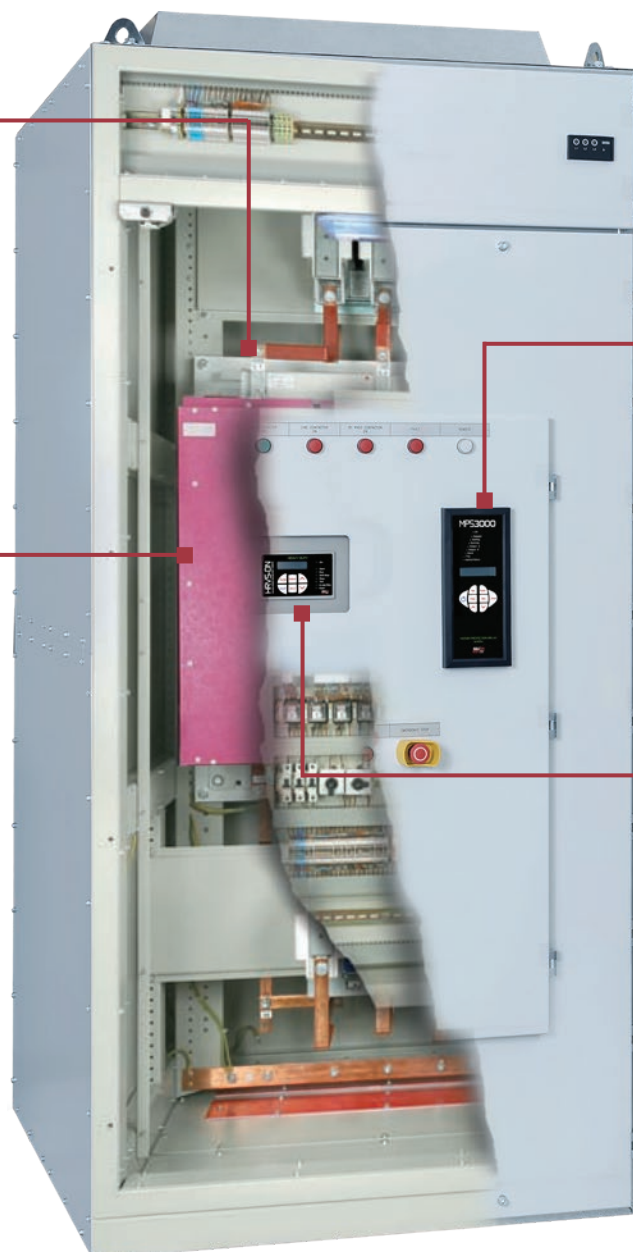
- » Rated: up to 12kV, 1250A
- » Internal arc test 31.5kA/1sec, 1AC:AFLR
- » Short-time withstand current 31.5kA/3sec
- » Dielectric test - Power frequency 28kV 60sec
Impulse voltage 75kV
- » Temperature rise test
- » IP54 Protection level



Electronic Potential Transformer



Soft Starter Power Module



Motor Protection Relay

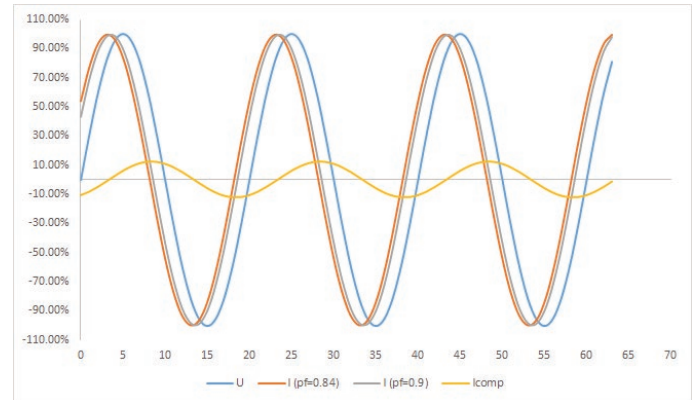


Control panel & HMI

Power Factor Correction

Reactive power not only puts a strain on the power grid, but it also represents an additional cost factor for companies.

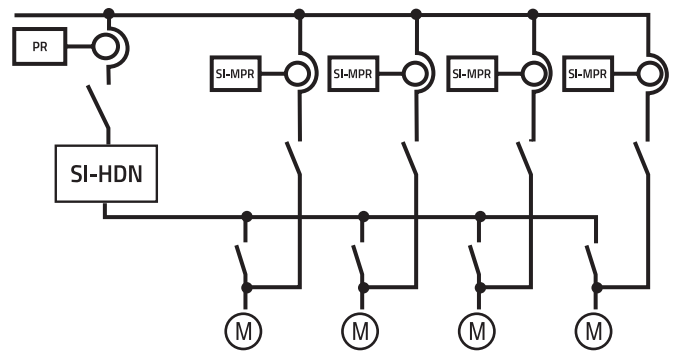
We help you save costs by designing, calculating the optimum power factor compensation and integrate the individual or group compensation directly into our solution for you.



Multi-Motor Starting

In certain application it is advisable to use the multi-motor starting concept. We will optimise the starting system exactly for your needs to be cost-efficient with an efficiently reduced footprint.

Using a redundant configuration of this concept will propel the availability of the starter system to best-in-class values.



Data Logger

Spectrum Analysis & Diagnostics Software



The Data Logger can diagnose an array of issues including a soft starter trip due to a network fluctuation (phase loss).

Solcon-IGEL's Data Logger (SDL) is an innovative solution that delivers remote system diagnostics and maintenance for the HRVS-DN and other Solcon-IGEL soft starters.

The SDL includes a multi-signal acquisition system and waveform capture software that facilitates full spectrum analysis. Available in three formats the SDL offers increasing levels of data, analysis and maintenance.

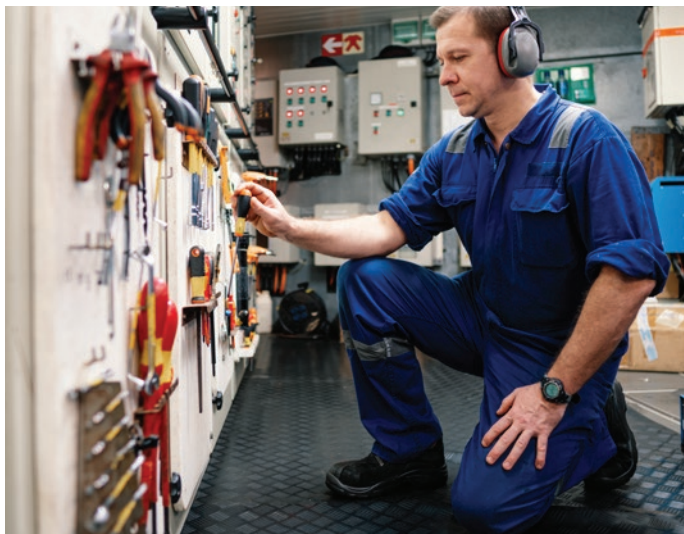
MODELS | 2.3-13.8kV, 60-2,500A

Mains Voltage (kV)	Rated Current (A)	Motor kW (kW)	Mains Voltage (kV)	Starter Current (A)	Motor kW (kW)	Mains Voltage (kV)	Starter Current (A)	Motor kW (kW)
2.3	60	200	6.6	70	670	11	70	1,100
	110	360		140	1,340		140	2,200
	200	660		250	2,390		250	4,000
	320	1,060		300	2,870		300	4,800
	400	1,330		400	3,820		400	6,400
	500	1,660		500	4,780		500	8,000
	600	2,000		600	5,736		600	9,600
	700	2,300		700	6,740		700	11,200
	800	2,660		800	7,650		800	12,800
	1,000	3,330		1,000	9,570		1,000	16,000
3.3	60	280		1,200	11,500	13.8	1,200	19,200
	110	520		1,400	14,000		1,400	22,400
	200	950		1,600	16,000		1,600	25,600
	320	1,530		1,800	18,000		1,800	28,800
	400	1,910		2,500	22,000		70	1,400
	500	2,390		70	1,020		140	2,800
	600	2,850		140	2,040		250	5,000
	700	3,325		250	3,650		300	6,000
	800	3,820		300	4,300		400	8,000
	1,000	4,780		400	5,800		500	10,000
4.16	60	360	10	500	7,250		600	12,000
	110	660		600	8,700		700	14,000
	200	1,200		700	10,150		800	16,000
	320	1,930		800	11,600		1,000	20,000
	400	2,410		1,000	14,500		1,200	24,000
	500	3,010		1,200	17,400		1,000	20,000
	600	3,610		1,400	22,000		1,200	24,000
	700	4,210		1,600	25,000			
	800	4,820		1,800	28,000			
	1,000	6,030						

How To Order

Example

HRVS-DN	-	1000A	-	3.3kV	-	230V	-	230V	-	3P
		↓		↓		↓		↓		↓
		Rated Current		Mains Voltage		Control Voltage		Control Input Voltage		Options
						115VAC, 230VAC 125VDC, 220VDC		115VAC, 230VAC 110VDC, 125VDC 220VDC		2P - 2-phase control 3M - Modbus 3P - Profibus 3D - DeviceNet 4 - Insulation test 5 - Analog output MSS - Multi motor soft-start/stop SDL - Solcon Data Logger U - UL & CUL standard



The HRVS-DN is tested in accordance with:

- » EN 55011
- » EN 61000-4-2-3,4,5,6,11
- » EN 61000-6-2, UL 347
- » In cabinet environmental - IEC 60068-2



Please consult Solcon-IGEL representative for further details.

Routine tests include:

- » Visual inspection
- » Insulation test
- » Dielectric voltage-withstand
- » Light load
- » Checking of auxiliary devices
- » Checking the control equipment properties

*Routine tests, and special tests can also be performed at any industrial site.

Global Presence

With a network of more than 100 partners worldwide, the Solcon-IGEL brand is well represented across the globe.

As a global leader in solid state motor soft starters and control systems for applications that run across the scope of the industrial landscape we are constantly expanding our portfolio of products and services using the expertise and market knowledge that we have acquired over the years.

Solcon-IGEL's experience guarantees that our medium voltage Soft-Starter HRVS-DN is the right choice for any application.

Together with our partners we assure safety, efficiency and reliability.



More Service

Experienced team of engineers ready for any situation



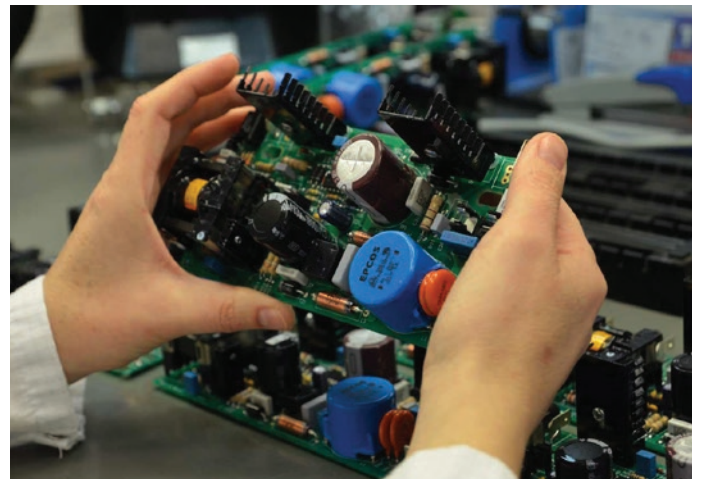
More Local

Our partners are in your neighbourhood for onsite needs



More Innovation

Holistic solutions for technology of the future



Meeting your needs across industries



contact@solconigel.com



www.solconigel.com