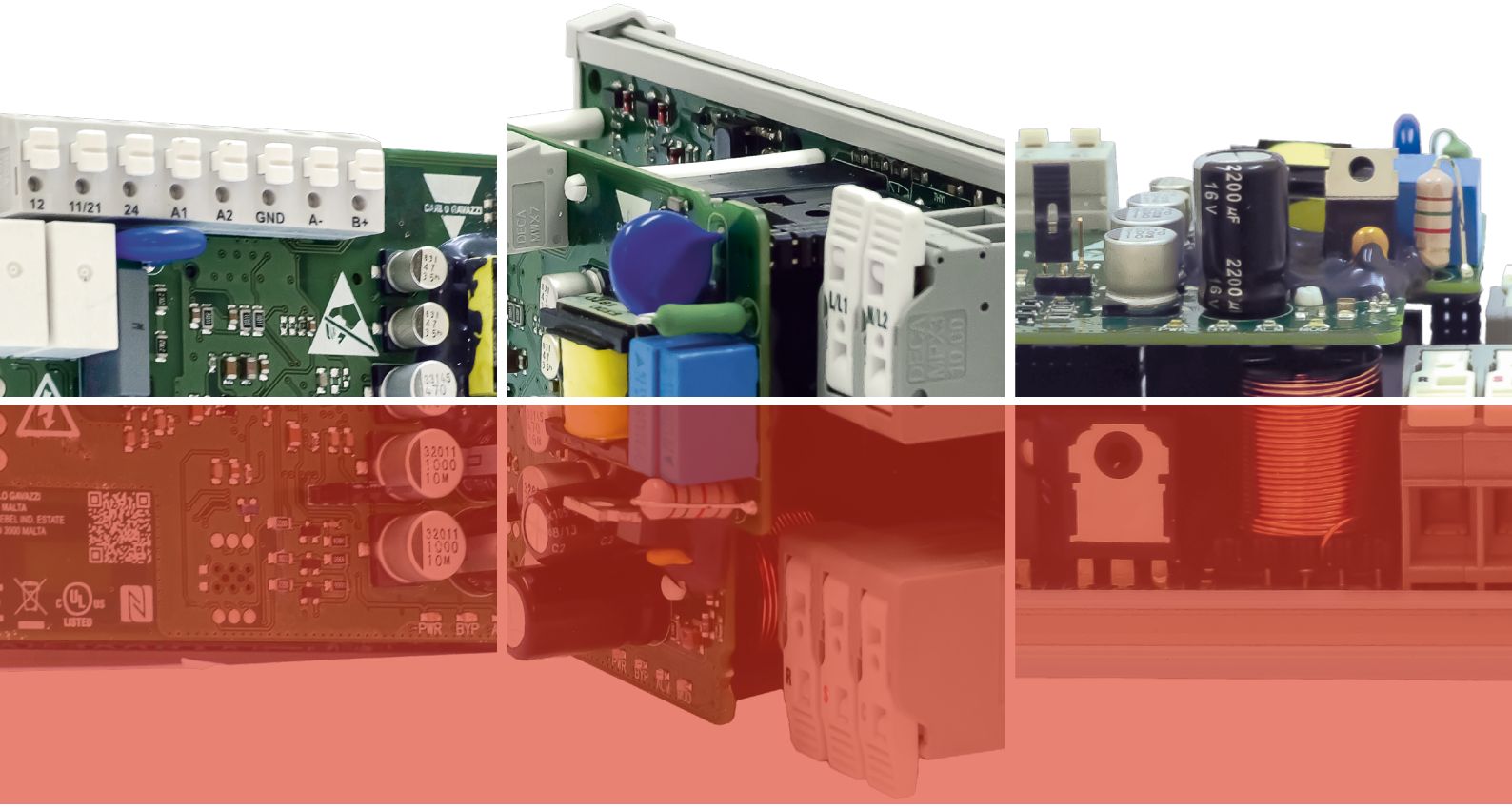
CARLO GAVAZZI
Automation Components

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HDMS – Single phase dynamic motor starter

Switches

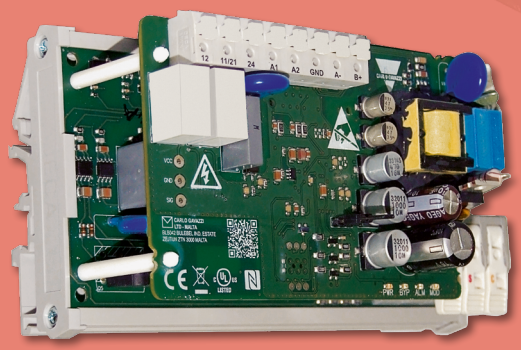
HDMS

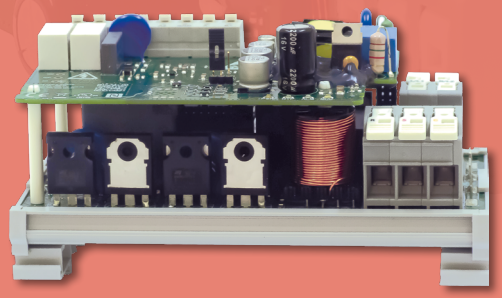
IGBT based single phase motor starter

At Carlo Gavazzi, we do things differently: we question market trends, listen to the wishes of our customers and find practical solutions. For these reasons, we have developed the IGBT-based AC motor starter HDMS (High Dynamic Motor Starter).

The HDMS is the latest-generation electronic soft starter, specially designed for starting single-phase motors with start and run capacitor (CSCR).

The HDMS is aimed primarily at all OEMs in the heat pump, cooling and water treatment sectors, who have problems with the supply networks that are too weak when starting single phase (CSCR) motors. Compared to commercially available solutions, the HDMS can start single phase (CSCR) motors without an additional starting capacitor with the highest possible torque.





A breakthrough in single phase motor starting

Start capacitor no longer needed
Faulty starting capacitors are the most common cause of malfunction in CSCR motors. Voltage fluctuations and high temperatures often lead to premature failure of these components.

The HDMS features an innovative (patent pending) algorithm that allows it to generate sufficient torque to start CSCR single phase motors without requiring a start capacitor. This will result in a longer lifetime and fewer issues for your equipment.

Exceptional current reduction
HDMS reduces start up current by an average of 75% compared to direct on line (DOL) start. The significant start up current reduction also leads to fewer alarms in applications with weak power supply.

Self-learning for optimised starts all the time
The HDMS features our 3rd generation of self-learning algorithms. This results in a product that is easy to use as it does not require any user adjustments. Through specific parameter measurements, the HDMS is able to improve the motor starts on every single start.

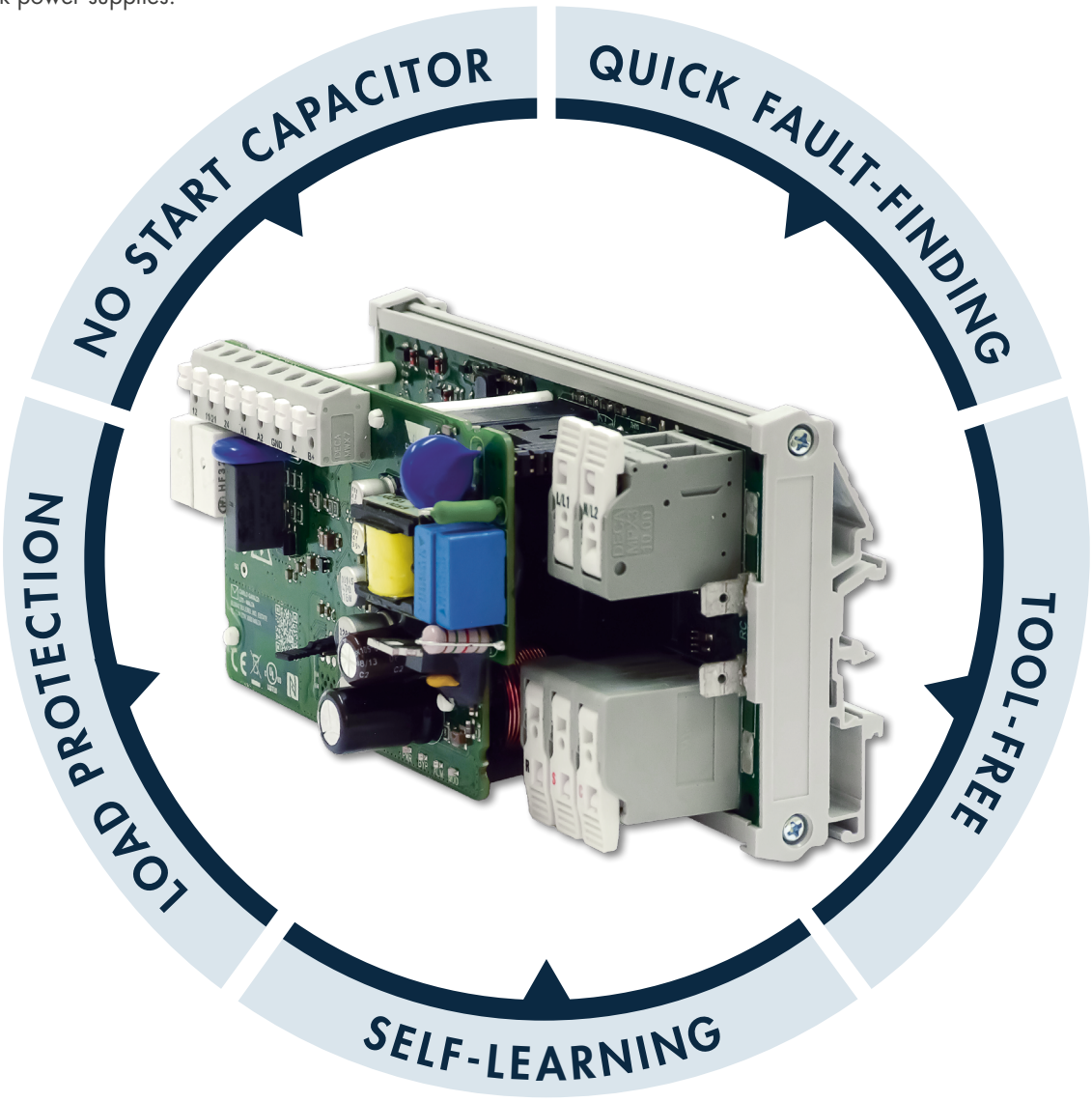
Simple troubleshooting
The onboard Modbus and NFC communication interfaces allow the user to download important information from the HDMS.

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An innovative product in multiple ways

Thanks to an innovative algorithm (patent pending), the HDMS can start scroll compressors and submersabile pumps without the use of a starting capacitor. This results in higher reliability, especially in applications with weak power supplies.

The NFC communication with Android smartphones allows download of troubleshooting data in a de-energized state. The Modbus interface also offers the option for remote monitoring. This ensures quicker fault finding and machine up time.



The HDMS is equipped with class 10 overload protection to offer more protection for your motors. Additional monitoring functions are also available to keep your motors protected even in abnormal conditions.

The HDMS features our 3rd generation of self-learning algorithms. This results in a product that is easy to use as it does not require any user adjustments. Through specific parameter measurements, the HDMS is able to improve the motor starts on every single start.

The HDMS features a tool free design that makes your wiring very quick and easy. No tools are required ... just the power of your fingers! This results in 50% time saving duing installation.

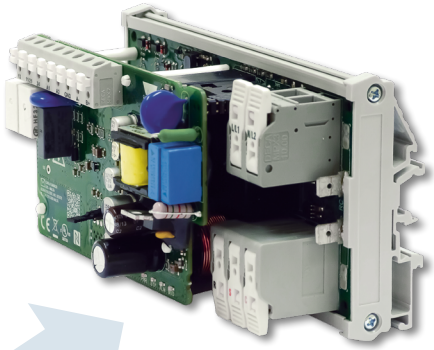
HDMS

IGBT based single phase motor starter

Versatile communication options



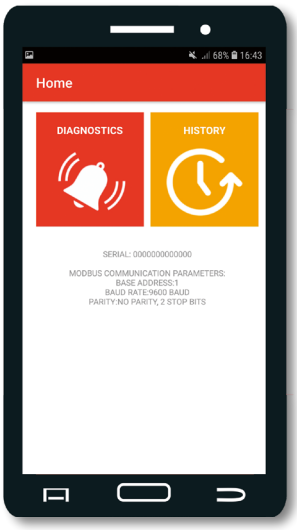
RS485 – Modbus RTU



Monitoring and troubleshooting software

The integrated Modbus RTU RS485 interface allows the HDMS to be connected to a PC for real time monitoring of energy and operating variables. Furthermore, thanks to NFC technology, stored data in the HDMS can be downloaded to any Android smartphone or tablet. This is done when HDMS is in the off state to ensure maximum safety for personnel.

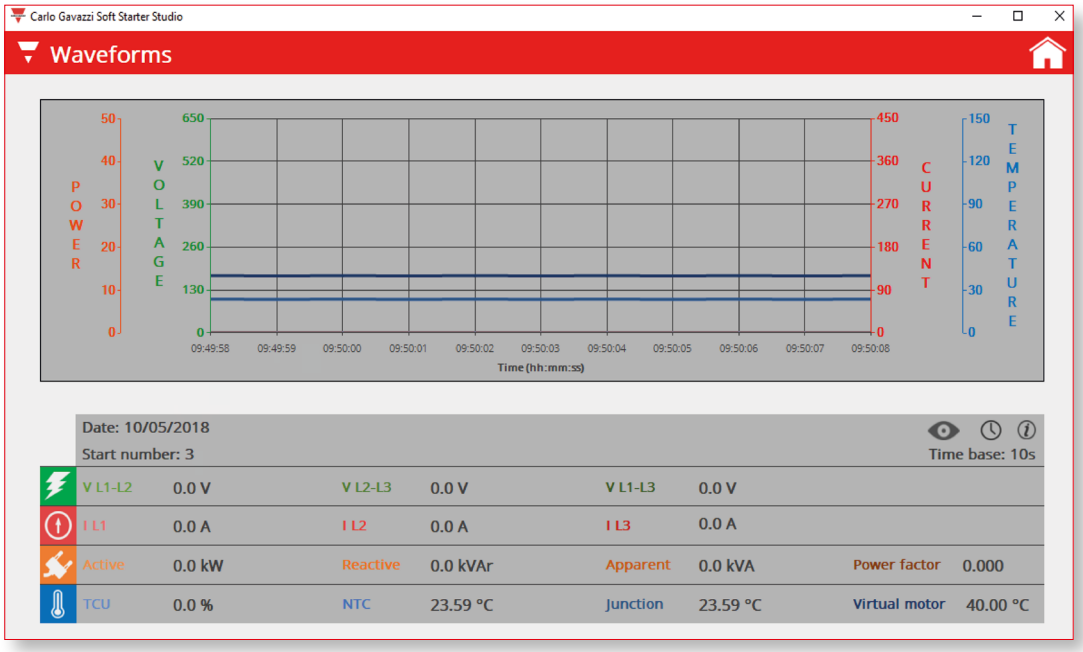
NFC



download link
Android software
HDMS Mobile

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Software for monitoring and troubleshooting

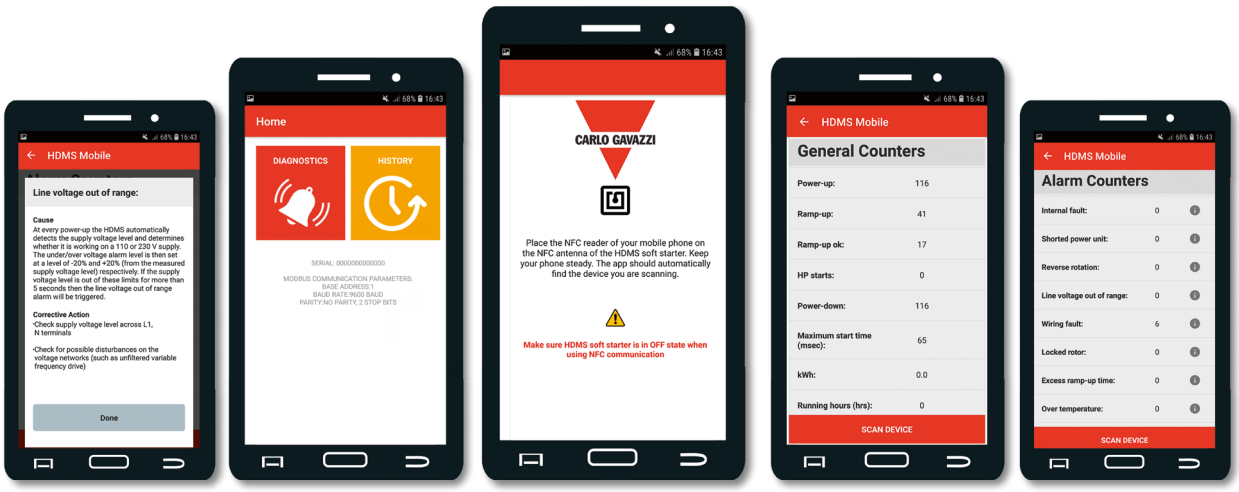


Device history download
History file contains data for:

- First 8 starts
- Last 24 starts
- 143 alarm events

Troubleshooting guide
Alarm counters are recorded in device memory. Troubleshooting guide can be accessed directly through your phone

Data available in .csv
All data can be downloaded in .csv format to your phone. Data can easily be shared via email for faster identification of problems.



HDMS

IGBT based single phase motor starter

Applications

Heat pumps

- HDMS reduces scroll compressors starting current up to 75%
- Algorithm is optimised to start in < 1 sec
- No settings are required
- HDMS will automatically optimise the start current at every single start!



Deep well pumps

- HDMS can start submersible pumps with < 1.2 times the pump's nominal current
- Coated PCBs ensure high protection against humid environments
- Wide operational and control voltage range ensure higher reliability in installations with weak voltage grid
- Various application related faults are automatically detected by the HDMS for additional motor protection
- Most of the alarms follow a self-recovery routine to minimise machine downtime



Refrigeration compressors

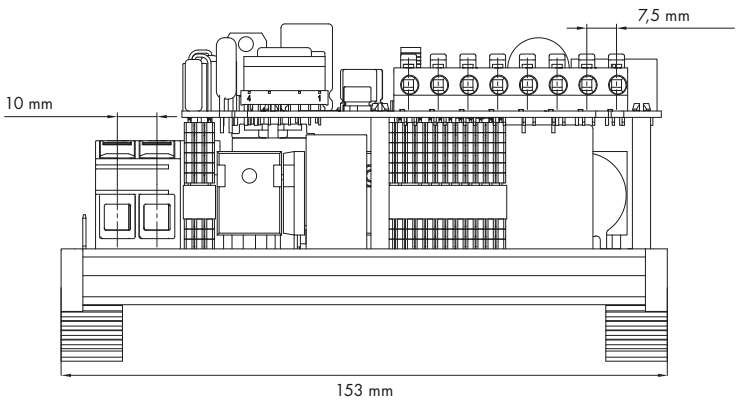
- Start capacitors are used in hard start kits as well as traditional soft starters to start high starting torque motors such as scroll compressors
- With HDMS the start capacitor can be removed
- This results in higher reliability and performance, especially with unstable voltage networks

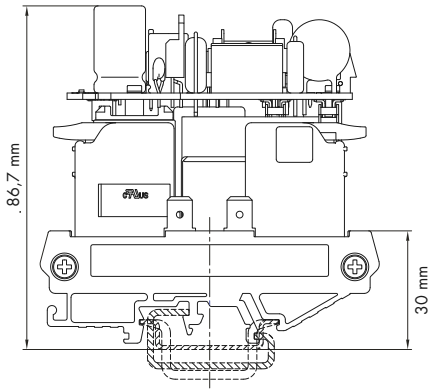


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Technical specifications

Technical specifications	
Supply voltage	110–230 VAC
operating frequency	50/60 Hz
Nominal load current	12/25/32/37 AAC
Control voltage	110–230 VAC
Mounting	Panel or DIN rail
Operating temperatur	-20°C to +65°C
Overload category	AC53b:1-5:1-360
Starts per hour	10
Relay output	2 relay outputs Functions: Alarm, Top of ramp
Connections	Lever operated terminals / Push in
Communication	
Optional Modbus RTU interface (2 - wire /RS485)	
Features	Configuration Real time variable measurements History file download Start / Stop command
NFC interface	
Features	History file download





Ordering Code

References				
Nominal load current	**12 AAC**	**25 AAC**	**32 AAC**	**37 AAC**
Without Modbus interface				
Panel Installation	**HDMS2312G0V20**	–	–	–
DIN rail mounting	**HDMS2312G0V21**	–	–	–
With Modbus interface				
Panel Installation	**HDMS2312G0V20C**	**HDMS2325G0V20C**	**HDMS2332G0V20C**	**HDMS2337G0V20C**
DIN rail mounting	**HDMS2312G0V21C**	**HDMS2325G0V21C**	**HDMS2332G0V21C**	**HDMS2337G0V21C**

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