





HDMS - Single phase dynamic motor starter

Switches

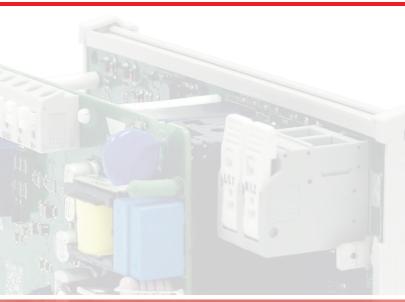
IGBT based single phase motor starter



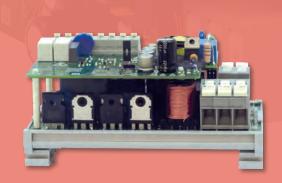
At Carlo Gavazzi, we do things differently: we question market trends, listen to the wishes of our customers and find practical solutions. For these reasons, we have developed the IGBT-based AC motor starter HDMS (High Dynamic Motor Starter).

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.

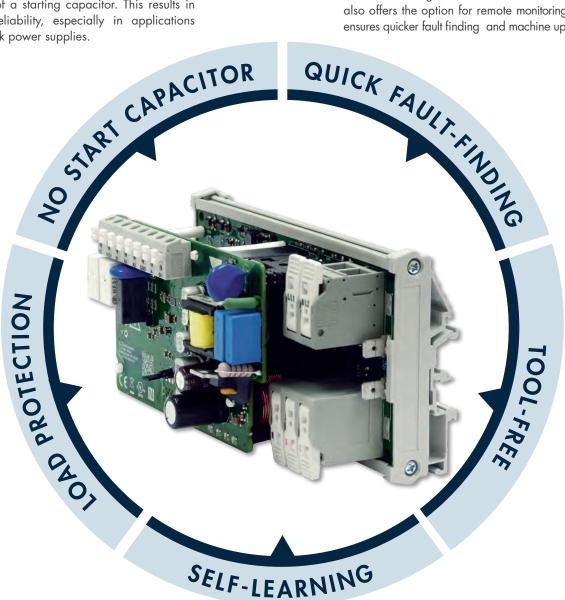




An innovative product in multiple ways

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.

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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.

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Versatile communication options



RS 485 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.



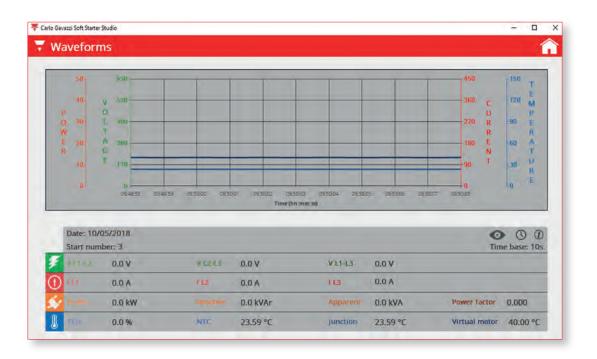




download link Android software HDMS Mobile



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.





IGRT based single





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





Technical specifications

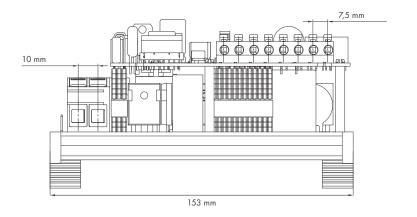
Technical specifications

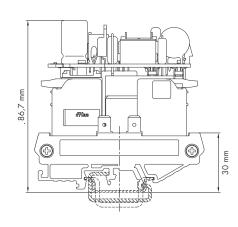
Supply voltage	110-230 VAC			
operating frequency	50/60 Hz			
Nominal load current	12/25/32/37 AAC			
Control voltage	110-230 VAC			
Mounting	Panel or DIN rail			
Operating temperatur	-20°C to +65°C			
Overload category	AC53b:1-5:1-360			
Starts per hour	10			
Relay output	2 relay outputs Functions: 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 interfac	e					
Panel Installation	HDMS2312G0V20C	HDMS2325G0V20C	HDMS2332G0V20C	HDMS2337G0V20C		
DIN rail mounting	HDMS2312G0V21C	HDMS2325G0V21C	HDMS2332G0V21C	HDMS2337G0V21C		

OUR SALES NETWORK IN EUROPE

Carlo Gavazzi GmbH Ketzergasse 374, A-1230 Wien Tel: +43 1 888 4112 Fax: +43 1 889 10 53 office@carlogavazzi.at

BELGIUM

Carlo Gavazzi NV/SA Mechelsesteenweg 311, B-1800 Vilvoorde Tel: +32 2 257 4120 Fax: +32 2 257 41 25 sales@carlogavazzi.be

DENMARK

Carlo Gavazzi Handel A/S Over Hadstenvej 40, DK-8370 Hadsten Tel: +45 89 60 6100 Fax: +45 86 98 15 30 handel@gavazzi.dk

FINLAND

Carlo Gavazzi OY AB Ahventie 4 B, FI-02170 Espoo Tel: +358 9 756 2000 myynti@gavazzi.fi

Carlo Gavazzi Sarl Zac de Paris Nord II, 69, rue de la Belle Etoile, F-95956 Roissy CDG Cedex Tel: +33 1 49 38 98 60 Fax: +33 1 48 63 27 43 french.team@carlogavazzi.fr

GERMANY

Carlo Gavazzi GmbH Pfnorstr 10-14 D-64293 Darmstadt Tel: +49 6151 81000 Fax: +49 6151 81 00 40 info@gavazzi.de

Fax: +44 1 276 682 140

sales@carlogavazzi.co.uk

GREAT BRITAIN

Carlo Gavazzi UK Ltd 4.4 Frimley Business Park, Frimley, Camberley, Surrey GU16 7SG Tel: +44 1 276 854 110

Rua dos Jerónimos 38-B, P-1400-212 Lisboa Tel: +351 21 361 7060 Fax: +351 21 362 13 73 carlogavazzi@carlogavazzi.pt

Carlo Gavazzi SpA Via Milano 13, I-20020 Lainate Tel: +39 02 931 761 Fax: +39 02 931 763 01 info@gavazziacbu.it

NETHERLANDS

Carlo Gavazzi BV Wijkermeerweg 23, NL-1948 NT Beverwijk Tel: +31 251 22 9345 Fax: +31 251 22 60 55 info@carlogavazzi.nl

NORWAY

Carlo Gavazzi AS Melkeveien 13, N-3919 Porsgrunn Tel: +47 35 93 0800 Fax: +47 35 93 08 01 post@gavazzi.no

PORTUGAL

Carlo Gavazzi Lda

SPAIN

Carlo Gavazzi SA Avda. Iparraguirre, 80-82, E-48940 Leioa (Bizkaia) Tel: +34 94 480 4037 Fax: +34 94 431 6081 gavazzi@gavazzi.es

SWEDEN

Carlo Gavazzi AB V:a Kyrkogatan 1, S-652 24 Karlstad Tel: +46 54 85 1125 Fax: +46 54 85 11 77 info@carlogavazzi.se

SWITZERLAND

Carlo Gavazzi AG Verkauf Schweiz/Vente Suisse Sumpfstrasse 3, CH-6312 Steinhausen Tel: +41 41 747 4535 Fax: +41 41 740 45 40 info@carlogavazzi.ch

OUR SALES NETWORK IN THE AMERICAS

Carlo Gavazzi Inc. 750 Hastings Lane, Buffalo Grove, IL 60089, USA Tel: +1 847 465 6100 Fax: +1 847 465 7373 sales@carloaavazzi.com

CANADA

Carlo Gavazzi Inc. 2660 Meadowvale Boulevard. Mississauga, ON L5N 6M6, Canada Tel: +1 905 542 0979 Fax: +1 905 542 22 48 gavazzi@carlogavazzi.com

Carlo Gavazzi Mexico S.A. de C.V. Circuito Puericultores 22, Ciudad Satelite Naucalpan de Juarez, Edo Mex. CP 53100 Mexico T +52 55 5373 7042 F +52 55 5373 7042 mexicosales@carlogavazzi.com

Carlo Gavazzi Automação Ltda Av. Francisco Matarazzo, 1752 Conj 2108 - Barra Funda - São Paulo/SP Tel: +55 11 3052 0832 Fax: +55 11 3057 1753 info@carlogavazzi.com.br

OUR SALES NETWORK IN ASIA AND PACIFIC

SINGAPORE

Carlo Gavazzi Automation Singapore Pte. Ltd. 61 Tai Seng Avenue #05-06 Print Media Hub @ Paya Lebar iPark Singapore 534167 Tel: +65 67 466 990 Fax: +65 67 461 980 info@carlogavazzi.com.sg

MALAYSIA

Carlo Gayazzi Automation (M) SDN, BHD, D12-06-G, Block D12, Pusat Perdagangan Dana 1, Jalan PJU 1A/46, 47301 Petaling Jaya, Selangor, Malaysia.

Tel: +60 3 7842 7299 Fax: +60 3 7842 7399 sales@gavazzi-asia.com

CHINA

Carlo Gavazzi Automation (China) Co. Ltd. Unit 2308, 23/F. News Building, Block 1,1002 Middle Shennan Zhong Road, Shenzhen, China Tel: +86 755 83699500

Fax: +86 755 83699300 sales@carlogavazzi.cn

HONG KONG Carlo Gavazzi Automation Hong Kong Ltd. Unit No. 16 on 25th Floor, One Midtown, No. 11 Hoi Shing Road, Tsuen Wan, New Territories, Hong Kong Tel: +852 23041228 Fax: +852 23443689

OUR COMPETENCE CENTRES AND PRODUCTION SITES

DENMARK

CHINA

Kunshan

Carlo Gavazzi Industri A/S Hadsten

MAITA

Carlo Gavazzi Ltd Zeitun

ITALY

Carlo Gavazzi Controls SpA Belluno

LITHUANIA

Uab Carlo Gavazzi Industri Kaunas Kaunas

HEADQUARTERS

Carlo Gavazzi Automation (Kunshan) Co., Ltd.

Carlo Gavazzi Automation SpA Via Milano, 13 I-20020 - Lainate (MI) - ITALY Tel: +39 02 931 761 info@gavazziautomation.com









