Datasheet

Magnetic Bearing & Motor Control Unit MMC15

BG10837-xxN

Key Features

- 15 kW high speed motor controller
- Integrated sinus output filter
- Input voltage 400…460 V_{AC} ±10 %
- Recupatation in case of power failure
- 150 VA power amplifier for magnetic bearings
- Up to 6 sensor channels
- Digital I/O, CAN service interface
- Display with keypad
- MTBF in the field of 166'000 h
- UL 61800 approval

MECOS AG, Hardstrasse 319, CH-8005 Zürich, Tel +41 52 355 52 11, www.mecos.com

Properties

Drive

- High efficiency IGBT-PWM amplifier
- Integrated sinus output filter for reduced motor losses
- Recuperation in case of power failure
- Motor current: max. 29.5 A_{RMS}
- Short-circuit proof

Power amplifier for magnetic bearings

- Integrated PWM amplifiers with an output current of max. 3 A
- 150 VA magnetic bearing for 5 axes

Input

- Input voltage 400…460 V_{AC} ±10 %
- Mains frequency 50…60 Hz

Controller

- Configurable Digital I/Os
- CAN service interface for controller clock measurements
- Display with keypad

Sensor Interface

- Up to 6 sensor channels (4 radial, 1 axial, 1 pulse)
- Digital processing of the sensor signal
- Cable lengths up to 23 m possible without additional sensor amplifier box

Approbation

Applicable CE-directives:	Directive 2014/35/EU (LVD) Directive 2014/30/EU (EMC) Directive 2011/65/EU (RoHS)
ETL Certification:	UL 61800-5-1 (Control Number 3058899)

Norms

EN 60204-1: 2018	Safety of machinery – Electrical equipment of machines – Part 1: General requirements
EN 61800-5-1: 2007 UL 61800-5-1: 2012 Ed.1	Standard For Adjustble Speed Electrical Power Drive Systems - Part 5-1: Safety Requirements - Electrical, Thermal And Energy
EN 61000-6-2: 2005 /AC: 2005	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards - Immunity for industrial environments
EN 61000-6-4: 2007 /A1: 2011	Electromagnetic compatibility (EMC) – Part 6-4: Generic standards - Emission standard for industrial environments

Technical Specification

General Data	
Operating temperature	0…+55 °C, non-condensing
Storage temperature	-10…+60 °C
Dimensions (L x W x D)	409 x 222 x 229 mm
Weight	11 kg
Protection class / Pollution degree	IP20 / PD 2
Cooling	Forced air cooling

Mains connection	
Input power	16 kVA
Input voltage	400…460 V_{AC} ±10 %

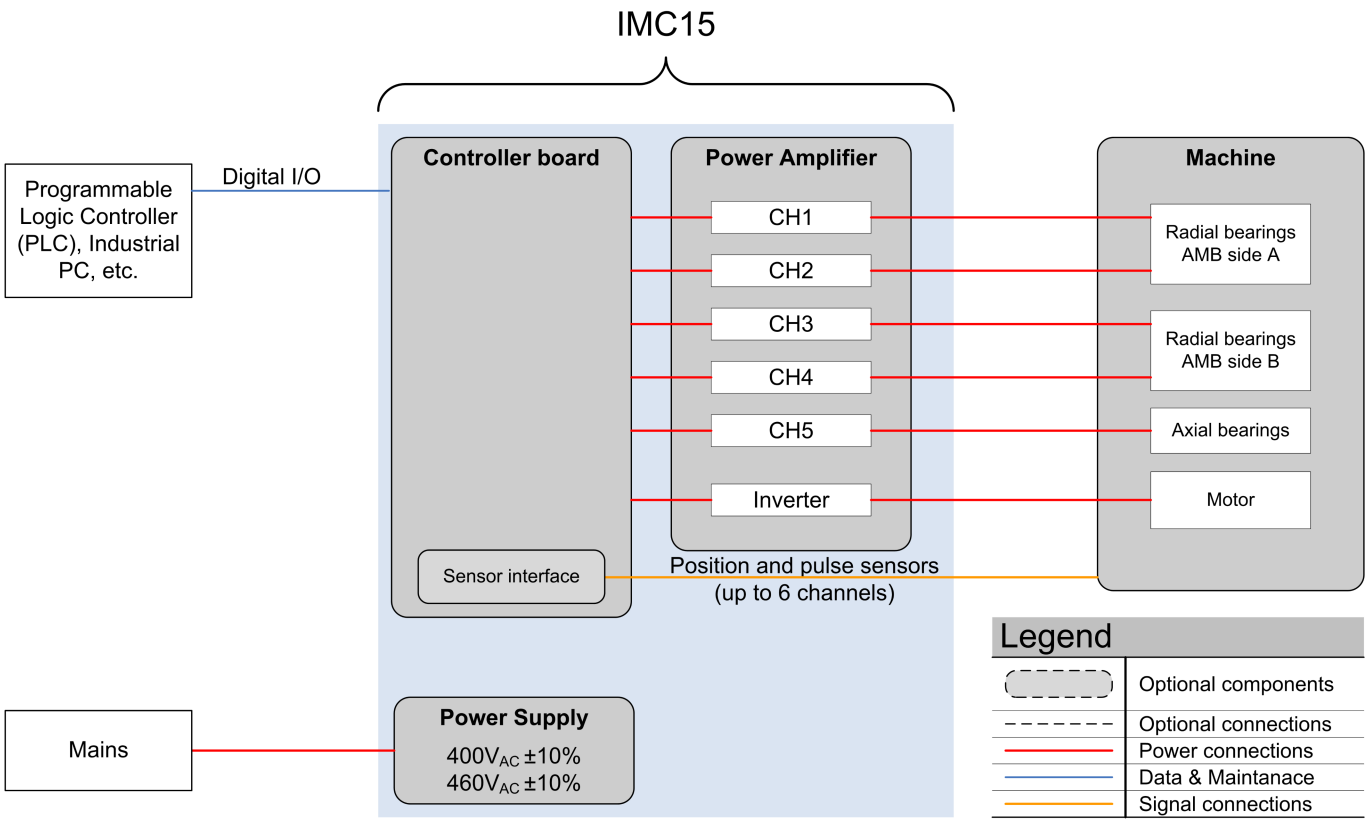
Drive	
Power	15 kW
Permanent load	100 %
Speed	0…900 Hz, 1100 Hz @ 14 kW
Short / ground circuit	Supervised

Power amplifier for magnetic bearings	
Power	150 VA per axis
Output current	3 A

Connections

PE | U | V | W | L1 | L2 | L3 | PE	Clamping block 10 mm²: motor connection and mains connection
X1 TSA/SMX6B/CAN	D-Sub 20+1 pin socket: sensors for cable > 23 m, CAN bus connection
X2 Dig I/O	Mini-Combicon 12 pin plug 1.5 mm²: digital inputs and outputs as well as isolated +24 V power supply
X3 Bearings	D-Sub 25 pin socket: magnetic bearing
X4 Sensor	D-Sub 15 pin socket: sensors for cable < 23 m
J2 Motor PTC	Spring cage terminal 1.5 mm²: PTC temperature monitoring

Typical application



Dimensions

All dimensions in mm