ENGINEERING TOMORROW

Fact sheet: iC2-Micro

Compact and flexible micro drive

Next-generation
More compact, intelligent, and powerful than its predecessor, the iC2-Micro now succeeds VLT® Micro Drive FC 51. This reliable and durable drive is also even easier to use and install. You can reduce system complexity and cost whilst maintaining full performance.

High performance
This drive gives you excellent motor control and mechanical brake performance. New features include torque open loop control, locked motor detection, permanent magnet motor control, built-in control panel and, of course, connectivity with our MyDrive® Suite digital tools.

Your choice of motor
iC2-Micro is compatible with the motor of your choice, so you can put together the best system for your application.

Highly integrated design
iC2-Micro contains an integrated control panel, potentiometer, RFI filter, brake chopper, and intelligent cooling to reduce the need for external components.

Ease of retrofit
Designed to smoothly replace VLT® Micro Drive FC 51 in established plants.

Feature	Benefit
Spring type I/O terminals	Save installation time, avoid errors
Integrated control panel with LED display & indicators Remote control panel with extra functions *(option)*	Easy programming
RJ45 port (RS485-based)	– Easy connection for external control panel option and PC tool – Off-line configuration with adapter option
Application set-up wizards	– Easy commissioning
Potentiometer for setting setpoints locally	Cost-effective with no external wiring
Compact design	Save cabinet space
Coated Printed Circuit Boards	Improved reliability in harsh environments
Compatible with IPM and SPM motors	Freedom to choose your preferred motor
Integrated brake chopper and PID controller	Reduced cost
Flexible side-by-side mounting	Save cabinet space and cost
Operates at up to 50 °C without derating	– Reduced cost for external cooling – Improved uptime
2 variants, with and without EMC filter	Choose the best fit for the application
No forced air over PCB for whole power range	Improved reliablity
Removable fan	Easy maintenance
Fan on / off control	Reduce noise and energy saving
Natural cooling in drives within MA01c enclosure	Reduce noise and eliminate channel blockage risk
Smart Logic Controller (SLC)	Customize drive functionality, and optimize how the drive, motor and application work together
Sleep mode	Reduce energy costs and equipment wear and tear, extending the lifetime of the application
UL LZGH2/8 certified in accordance with UL/IEC 60335-2-40 and CSA C22.2 No. 0335-2-40	A2L refrigerants in HVAC/R systems

This quality general-purpose drive is a perfect match for a wide range of applications. iC2-Micro performs with unsurpassed reliability even in complex applications. It gives you user-friendliness, condensed functionality, and easy commissioning, all in a powerful compact package

Power range
1-phase 200-240 V AC: 0.37-2.2 kW
3-phase 380-480 V AC: 0.37-22 kW
1-phase 100-120 V AC: 0.37-1.1 kW
3-phase 200-240 V AC: 0.37-11 kW

Perfor-mance
that pays off

drives.danfoss.com

ENGINEERING
TOMORROW

PM motor compatibility

iC2-Micro provides highly efficient permanent magnet motor control in open loop under VVC+ in the whole power range

Flexible choice of EMC performance

Available in two versions, with and without RFI filter.

Remote control panel

An optional remote control panel provides extra functionalities:

- 2.0" monochrome display
- Multi-language support
- Parameter copy and download
- Easy connection with RJ45 port
- Remote mounting kit

Digital tools

iC2-Micro is supported by powerful PC tools which help you select and commission the drive easily.

Access these tools

suite.mydrive.danfoss.com

Specifications

Mains supply (L1, L2, L3)	
Supply voltage	100-120 V (-15%/+10%) 200-240 V (-15%/+10%) 380-480 V (-15%/+10%)
Supply frequency	50/60 Hz
Displacement power factor (cos φ)	Near unity (> 0.98)
Switching frequency on input supply L1, L2, L3	Switching maximum 2 times/minute
Output data (U, V, W)	
Output voltage	0 -100% of supply voltage
Switching on output	Unlimited
Ramp times	0.01-3600 s
Frequency range	0-500 Hz
Overload capacity	
Overload torque	150% for 60 s every 10 min
Overload torque at start	200% for 1 s
Programmable digital inputs and outputs	
Digital inputs / digital outputs*	5 / 1
Logic	PNP or NPN
Voltage level	0/24 V DC

**Note: One digital input can be configured as digital output.*

Pulse input and output	
Pulse input / Pulse output**	1 / 1, voltage level 0/24 V DC

***Note: One digital input can be configured as pulse input. Another digital input can be configured as pulse output.*

Programmable analog inputs and output	
Analog inputs	2, voltage or current Voltage level: 0 V to +10 V (scaleable) Current level: 0/4 to 20 mA (scaleable)
Analog output	1 (current range 0/4 to 20 mA)
Programmable relay output	
Programmable relay output	1 (NO/NC 240 VAC, 2 A / 30 VDC, 2 A)

Enclosure size	Power [kW (hp)]			
	1 x 200-240 V	3 x 380-480 V	3 x 200-240 V	1 x 100-120 V
MA01c	0.37-0.75 (0.5-1.0)	–	–	0.37 (0.5)
MA02c	1.5 (2.0)	–	–	1.1 (1.5)
MA01a	–	0.37-1.5 (0.5-2.0)	0.37-0.75 (0.5-1.0)	–
MA02a	2.2 (3.0)	2.2-4.0 (3.0-5.5)	1.5 (2.0)	–
MA03a	–	5.5-7.5 (7.5-10)	2.2-3.7 (3.0-5.0)	–
MA04a	–	11-15 (15-20)	5.5-7.5 (7.5-10)	–
MA05a	–	18.5-22 (22-30)	11 (15)	–

Enclosure size	Height [mm (in)]		Width [mm (in)]		Depth [1] [mm (in)]	Weight
	A	a	B	b	C	[kg (lb)]
MA01c	150 (5.9)	140.4 (5.5)	70 (2.8)	55 (2.2)	143 (5.6)	1.0 (2.4)
MA02c	176 (6.9)	150.5 (5.9)	75 (3.0)	59 (2.3)	157 (6.2)	1.3 (2.9)
MA01a	150 (5.9)	140.4 (5.5)	70 (2.8)	55 (2.2)	158 (6.2)	1.1 (2.4)
MA02a	186 (7.3)	176.4 (6.9)	75 (3.0)	59 (2.3)	175 (6.9)	1.6 (3.5)
MA03a	238.5 (9.4)	226 (8.9)	90 (3.5)	69 (2.7)	200 (7.9)	3.0 (6.6)
MA04a	292 (11.5)	272.4 (10.7)	125 (4.9)	97 (3.8)	244.5 (9.6)	6.0 (13.2)
MA05a	335 (13.2)	315 (12.4)	165 (6.5)	140 (5.5)	248 (9.8)	9.4 (20.7)

[1] *The potentiometer on the local control panel extends 6.5 mm (0.26 in) from the drive.*