

Step Controller

IT116 Mini/IT116 Flash



IT 116 Mini

Rear side
IT 116

Characteristics

IT 116 Mini

- Performance output 24 V DC / 3.3 A peak for 2 phase stepper motors
- Max. 1,600 micro steps/revolutions
- Supply voltage:
Broadrange power input:
90 V AC / 264 V AC, 50...60 Hz
- Dimensions:
W 105 x H 110 x D 350 mm

IT 116 Flash

- Performance output 48 V DC / 4.2 A peak for 2 phase stepper motors
- Max. 25,600 steps/revolution
- Supply voltage:
115 V AC / 230 V AC, 50...60 Hz,
refer to article number for IT116 Flash
- Dimensions:
W 105 x H 111 x D 320 mm

General Features

- Automatic current reduction to 50% phase current at motor rotation speed < 1 rpm
- Motor current/microstep solution adjustable via DIP switch
- Integrated 32-Bit RISC Processor (embedded controller) with flash memory for firmware and PAL-PC user program
- RS-232 Interface (at front) for hook-up with PC/ Notebook (program download)
- USB Interface (at front) to load user programs from USB memory stick (USB-On The Go)
- Control signals: Program-start/stop, reset on controller rear side
- 4 Opto-isolated signal inputs (signal voltage: 24 V DC)
- 4 Relay outputs (24 V DC, 300 mA)
- Activation (24 V DC) motor brake
- Remote connector on controller rear side for external emergency OFF (2 channel)
- Euro cooling fin housing
- Programming with PAL-PC 2.1 (part of the scope of delivery)

General

The step controllers IT116 Mini /IT 116 Flash are freely programmable compact controls for a linear and rotational axis with 2 phase stepper motors. The step controller consists of an intelligent motor output, a processor core with flash memory for the interpretation of PAL PC user programs and the signal generation for motor outputs, the required network components, a safety circuit (stop category 0 acc. to EN 60204) as well as a housing with network input filter and control elements.

The integrated operating system also supports the

DNC mode of the controller:

PC / laptop connected permanently with step controller via serial interfaces as well as the

CNC mode of the controller:

The step controller operates the user program self-sufficiently (stand alone)+ without PC connection.

Ordering information

Step-Controller IT 116 Mini

Item no.: **381017 ***

Step-Controller IT 116 Flash (115 V AC, 60 Hz)

Item no.: **381016 0115 ***

Step Controller IT 116 Flash (230 V AC, 50 Hz)

Item no.: **381016 ***

* incl. PAL PC and remote

Technical specifications subject to change.

Step Controller

iMC-M



Figure:
Face and rear side
Step controller iMC-M

General

The servo controllers iMC-M1/2 (standard color: grey) are freely programmable compact controls for a linear and rotational unit with 2-phase stepper motors. The 4 axes controller integrates all necessary components (interface, motion controller, voltage supply, final stages, safety circuit incl. door control, operating elements) that are required to control the machine, in a compact table housing.

There are two options available:

- **iMC-M1:** with intelligent core module to control via RS232 or USB interface
The controller operates hereby either in DNC mode (permanently connected with the computer) or in CNC mode (after the transfer of the user program as "Stand Alone" controller) e.g. via the enclosed PAL-PC software.
- **iMC-M2:** with clock direction module (Sub-D 25) to the parallel port of a PC
This permits the use of many software packages.

Ordering information

Controller iMC-M2 with clock direction module	Item no.: 381402 0004*
Controller iMC-M1 with core module	Item no.: 381401 0004*
Converter USB-RS 232	Item no.: 372000 0001

* incl. PAL PC and remote

Characteristics

iMC-M1 (with core module)

- 8 Signal input (24 V DC)
 - 8 Signal outputs (24 V DC / 300 mA), max. 2 A total current
 - 1 Relay output (230 V AC / 6 A)
 - 1 Analog output (0 – 10 V)
 - RS232/USB* programming interface (front)
 - RS485 Interface to connect external devices such as laser, dispenser and such (front)
 - 32 Bit RISC processor with memory for user program
 - USB interface for USB stick (OTG) to load user programs
 - Programming with PAL-PC (DNC and CNC mode), @-Format (DNC and CNC mode), ProNC, Remote, Galaad, Labview (DNC-Mode), diverse Standard languages
- * available as of 3rd quarter 2009

iMC-M2 (with clock direction module)

- 1 Signal input
- 2 Signal outputs (24 V DC / 300 mA)
- 1 Relay output (230 V AC, 6 A)
- Parallel port interface as interface for different on the market available software such as WinPC-NC, Mach3, Galaad, EdiTask, EMC (Linux), etc.

General Features

- 4 Final stages (36 V / 3.5 A) for 2-phase stepper motors (power supply 200W)
- At an angle of intersection of 1.8° up to 1,600 micro steps/revolution (1/8 microstep)
- Automatic current reduction
- Motor current adjustable via software
- additional control signals (start, stop, reset) adaptable.
- Safety circuits (emergency Off, door circuit control) via an external connection in superordinated safety circuits can be integrated
- Broadrange power input: 115 V AC / 230 V AC, 50..60 Hz
- Table housing
W 304 x H 112 x D210

Technical specifications subject to change.

Step controller

iMC-MP



Figure:
Face and rear side
Step controller iMC-MP

General

The step controllers iMC-MP (standard color: grey) are freely programmable compact controls with max. 4 final stages for 2-phase stepper motors. The controllers integrate all necessary components (interfaces, motion controller, voltage supply, drive regulator, safety circuits, control elements) that are required to control a machine, in a compact table housing. With the controller iMC-MP1 with core module it is possible to control, during at least one integrated final stage, up to 3 additional external final stages with clock direction module. The signals required for this are provided by the respective external interfaces.

There are two options available:

- **iMC-MP1n:** with intelligent core module to control via RS232 or USB interface The controller operates hereby either in DNC mode (permanently connected with the computer) or in CNC mode (after the transfer of the user program as "Stand Alone" controller) e.g. via the enclosed PAL-PC software.
- **iMC-MP2:** with clock direction module (Sub-D 25) to the parallel port of a PC This permits the use of many software packages.

Ordering information

2 Axes controller	iMC-MP1-2 with core module	Item no.:	381403 0002*
	iMC-MP2-2 with clock direction module	Item no.:	381404 0002*
3 Axes controller	iMC-MP1-3 with core module	Item no.:	381403 0003*
	iMC-MP2-3 with clock direction module	Item no.:	381404 0003*
4 Axes controller	iMC-MP1-4 with core module	Item no.:	381403 0004*
	iMC-MP2-4 with clock direction module	Item no.:	381404 0004*
Converter USB	—RS232	Item no.:	372000 0001

* incl. PAL PC and remote

Technical specifications subject to change.

Characteristics

iMC-MP1 (with core module)

- 8 Signal input (24 V DC)
 - 8 Relay outputs (24 V DC / 300 mA), max. 2 A total current
 - 1 Relay output (230 V AC / 6 A)
 - 1 Analog output (0 – 10V)
 - 3 Clock/direction interfaces for the control of external final stages
 - RS232/USB* Programming interface (front)
 - RS485 Interface to connect external devices such as laser, dispenser and such (front)
 - 32 Bit RISC processor and memory for user program
 - USB interface for USB stick (OTG) to load user programs
 - Programming with PAL PC (DNC and CNC mode), @-Format (DNC and CNC mode), ProNC, Remote, Galaad, Labview (DNC mode), diverse standard languages
- * available as of 3rd quarter 2009

iMC-MP2 (with clock direction module)

- 1 Signal input
- 2 Signal outputs (24VDC/300mA)
- 1 Relay output (230VAC,6A)
- Parallel port interface as interface for different on the market available software such as WinPC-NC , Mach3, Galaad, EdiTask, EMC (Linux), etc.

General Features

- Max. 4 Final stages (48V/4.2A) for 2-phase stepper motors (power supply 500W)
- At an angle of intersection of 1.8° up to 25.600 micro steps/revolutions. (1/128 microstep)
- Automatic current reduction
- Motor current adjustable via DIP switch
- Additional control signals (start, stop, reset) adaptable.
- Safety circuits (emergency Off, door circuit control) via an external connection in superordinated safety circuits can be integrated
- Broadrange power input: 115VAC/230VAC, 50..60Hz
- Table housing
W 379 x H 137 x D260