Technical Note

PI

C-887.MC Hexapod Control Unit

System Description

The C-887.MC Hexapod control unit is designed to be used with Hexapod systems which comprise a C-887 Hexapod controller.

Using the C-887.MC control unit, motions of the moving platform of the Hexapod can be started and stopped without a PC or keyboard connected to the Hexapod controller.

The C-887.MC can be connected directly to any of the four USB sockets of the C-887 Hexapod controller.

> ### INFORMATION
>
> Use of the C-887.MC control unit requires firmware version 1.1.3 or newer of the C-887 Hexapod controller.
> For more information see "Updating Firmware" in the MS204E user manual for C-887 Hexapod controllers.
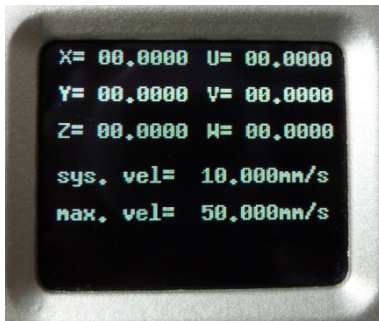
> ### INFORMATION
>
> The commands mentioned in this Technical Note are described in the user manual of the Hexapod controller. You cannot send them using the C-887.MC control unit but via the user interface of the C-887 Hexapod controller or via the PC software (PC connected via TCP/IP or RS-232 interface; see the user manual of the Hexapod controller).

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Product View

Figure 1: C-887.MC Hexapod control unit

| No.	Type	Function
1	Cable with connector USB type A	Connection to any of the four USB sockets of a C-887 Hexapod controller
2	**STOP** push button	Stops the following: ▪ All motions ▪ Macros running on the C-887 Hexapod controller.
3	Display (examples see Fig. 2)	Displays the following information: ▪ Target positions for the axes of the moving platform, in mm or degrees (corresponds to the MOV? response) ▪ System velocity for the moving platform (corresponds to the VLS? response) ▪ Maximum system velocity for the moving platform ▪ Pivot point coordinates for the moving platform (corresponds to the SPI? response) ▪ Error code of the last occurred error
4	**REF** push button	Starts a reference move of the axes of the moving platform (X, Y, Z, U, V, W). Press for at least 1 s.
5	**X, Y, Z, U, V, W** rotary knobs	Starts motion to a relative target position. The rotary knobs are turned in steps. A turn by a single step corresponds to a motion with the step size set with the SST command.

Display Details

System velocity was changed.
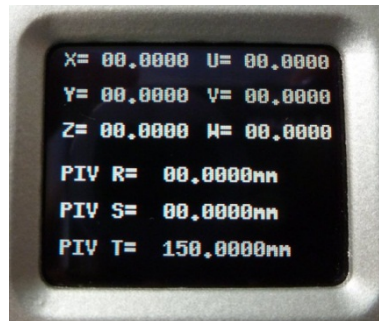
Pivot point coordinates are shown.
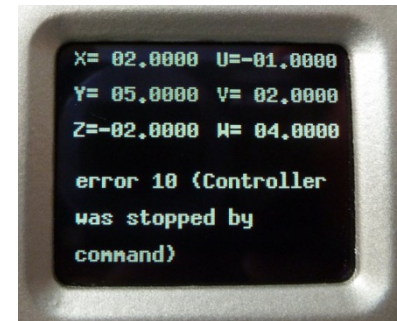
An error has occurred.

Figure 2: Examples for display content

> **INFORMATION**
>
> When an error has occurred on the C-887 Hexapod controller, the error code is displayed on the C-887.MC control unit. Even if the error was reset with the `ERR?` command in the meantime, the error code is displayed until one of the knobs or buttons of the C-887.MC control unit is used.

Start-Up and Operation

> **INFORMATION**
>
> The C-887.MC control unit is **not** a plug-and-play device.
>
> ➢ Switch the C-887 Hexapod controller off before you connect or disconnect the C-887.MC control unit.

> **INFORMATION**
>
> When a rotary knob is turned while the Hexapod performs a reference move, the reference move continues and an error code is set and displayed.

> **INFORMATION**
>
> When a new target position is set using the C-887.MC while the Hexapod still moves to a current target position, immediately the new target position replaces the current target position and the Hexapod starts to move to the new target position.

> **INFORMATION**
>
> While the C-887.MC control unit is used, commands can be sent via the communication interfaces of the C-887 or from a macro which is running on the controller. Macro content, move commands received via the communication interfaces and actions triggered by the C-887.MC control unit may overwrite each other.

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Prerequisite

- ➤ You have read and understood the General Notes on Start-Up in the user manual of the C-887 Hexapod controller.
- ➤ The C-887 has been installed properly (see user manuals of Hexapod and C-887 Hexapod controller).

Starting Up and Operating the Hexapod System with the C-887.MC

1. Make sure that the C-887 Hexapod controller is switched off.

2. Connect the C-887.MC to any of the four USB sockets of the C-887 Hexapod controller.

3. Switch on the C-887 Hexapod controller.
   After approximately 30 seconds a message appears on the display of the C-887.MC asking to start a reference move.

4. Press the **REF** push button for one second to start a reference move of the axes of the moving platform (X, Y, Z, U, V, W).

- ➤ To start a motion to a relative target position for the axes of the moving platform (X,Y,Z,U,V,W), turn the corresponding rotary knob.

   - The direction of motion depends on the direction in which the knob is turned.

   - The relative target results from the number of steps the knob is turned and from the current valid step size value. By default, the size of one step is 0.01 mm or degree. The step size value can be changed in the range of 0.0001 to 0.5 using the `SST` command.

- ➤ To stop a Hexapod motion press the **STOP** push button.

Technical Data

	C-887.MC
Function	Manual control unit
Communication interface	USB
Graphic display	160 x 128 pixel
Operating temperature range	5 to 40°C
Cable length	3 m
Mass	350 g
Dimensions	153 mm x 88 mm x 43.15 mm (incl. rubber feet and rotary knobs, without cable)

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The following ambient conditions and classifications must be observed for the C-887.MC:

Area of application	For indoor use only
Maximum altitude	2000 m
Air pressure	1100 hPa to 0.1 hPa (corresponds to roughly 825 torr to 0.075 torr)
Relative humidity	Highest relative humidity 80% for temperatures up to 31°C Decreasing linearly to 50% relative humidity at 40°C
Operating temperature	5°C to 40°C
Storage temperature	0°C to 70°C
Transport temperature	-25°C to 85°C
Overvoltage category	II
Protection class	I
Degree of pollution	1
Degree of protection according to IEC 60529	IP20

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