Technical Note

H815T0003, valid for H-815K005 and H-815.D6A3P

ASt, 11/20/2024

H-815 Hexapod System

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Technical Data

Hexapod Specifications

Specification	Value	Additional information
Load capacity, horizontal base plate	10 kg	Max.
Load capacity, base plate in any orientation	4 kg	Max.
Center of gravity of payload, X	0 mm	According to standard coordinate system
Center of gravity of payload, Y	0 mm	
Center of gravity of payload, Z	0 mm	
Mounting angle (base plate)	0°	
Travel range in X	+/- 20 mm	
Travel range in Y	+/- 20 mm	
Travel range in Z	+/- 10 mm	
Rotation range in θX	+/- 9°	
Rotation range in θY	+/- 9°	
Rotation range in θZ	+/- 16°	
Velocity, translational	20 mm/s	Max.
Velocity, translational	10 mm/s	Typ.
Holding force, self-locking	100 N	With brake
Sensor type	Absolute	No referencing required

Controller Specifications

For the controller specifications refer to the C-887.52x user manual *MS244E* (p. 3).

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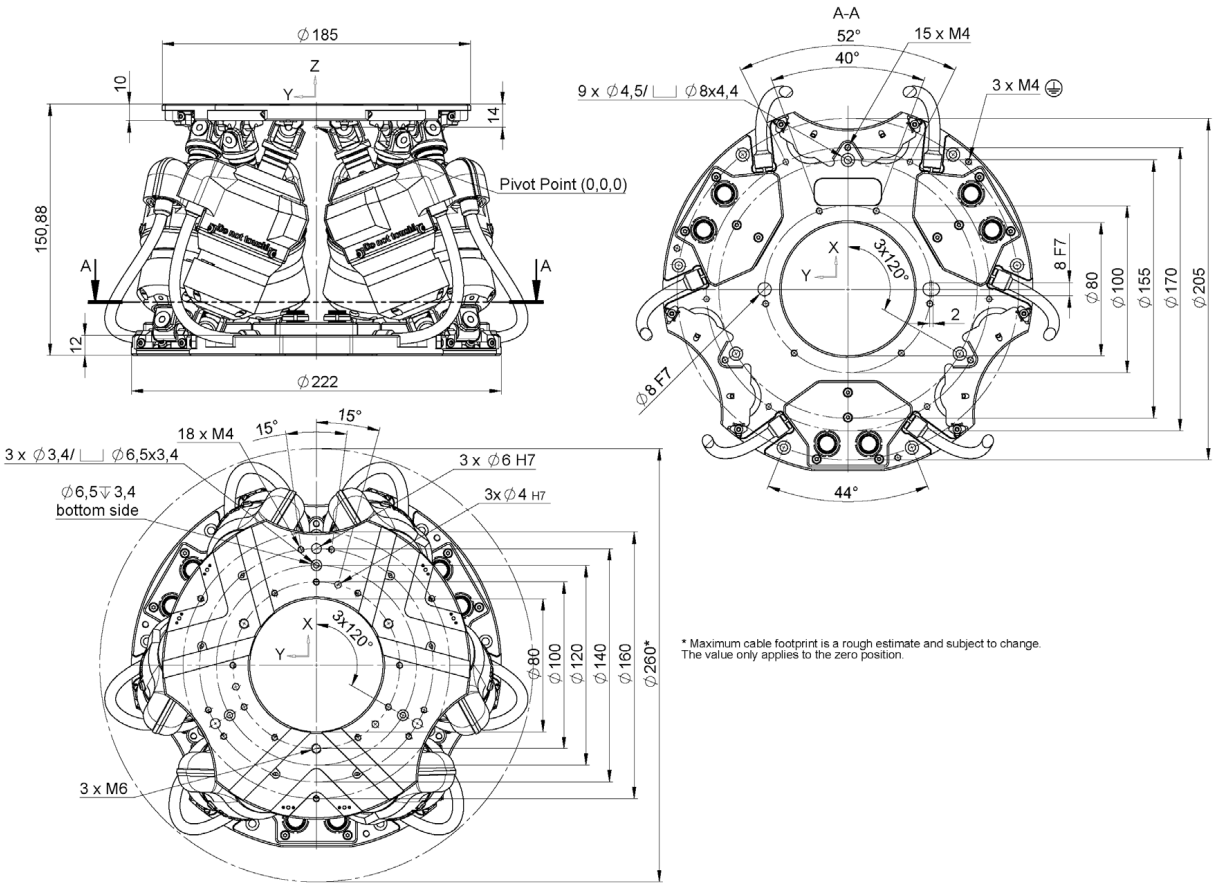
Dimensions of the Hexapod

Dimensions in mm. Note that the decimal places are separated by a comma in the drawings.
Platform is in zero position.



H-815K005 / H-815.D6A3P

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Technical Features

Safety Brakes

The H-815 hexapod is equipped with power-off brakes that serve as safety brakes. In the event of a power failure, the brakes are activated and hold the hexapod platform in place.

Limit Switches

The limit switches are sensors at each end of the struts' travel range. When a limit switch is activated, the power source of the motor is switched off to protect the hexapod against damage from malfunctions.

Absolute encoder

Absolute encoders supply explicit position information that enables immediate determination of the position. This means that referencing is not required during switch-on, which increases efficiency and safety during operation.

Connecting the hexapod to the controller

- Connect each strut of the hexapod via its circular push-pull connector (connector for strut 1 marked by an arrow in the figure below) to the corresponding HD D-sub connector of the controller with the corresponding cable:

  - Connect the hexapod's strut ***1*** to the controller's connector ***Drive 1*** with the cable labeled ***Axis 1***.
  - Connect the hexapod's strut ***2*** to the controller's connector ***Drive 2*** with the cable labeled ***Axis 2***.
  - and so on
- Use the integrated screws to secure the connections against accidental disconnection.

H-815 hexapod with struts 1 to 3 connected to the controller

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Pin Assignment

C-815.86DPxx Connection Cable

Hexapod side: Circular push-pull connector, 16-pin (m)

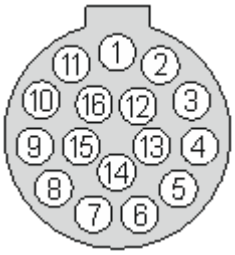

Fig. 5: Hexapod side of connection cable C-815.86DPxx: Circular 16-pin (m) push-pull connector

Pin	Signal
1	Power_24V
2	GND
3	Mot_0
4	Mot_1
5	Mot_2
6	Motor brake
7	PI_AME (ID chip)
8	BISS_CLK+/MA+
9	BISS_CLK-/MA-
10	BISS_DAT+/SLO+
11	BISS_DAT-/SLO-
15	P_Limit
16	N_Limit

Controller side: HD D-sub 26 (f)

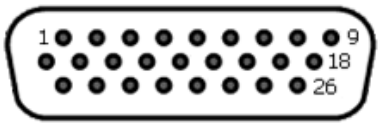

Fig. 6: Controller side of connection cable C-815.86DPxx: HD D-sub 26 (m) connector

Pin	Signal
2	Mot_0
4	Mot_1
6	Mot_2
9	Motor brake
11	N_Limit
12	P_Limit
16	Power_24V
17	PI_AME (ID chip)
19	BISS_CLK+/MA+
20	BISS_CLK-/MA-
21	BISS_DAT+/SLO+
22	BISS_DAT-/SLO-
25	GND