

# Operating mechanisms HMB-1 /-2 Maintenance Training Level 4 COURSE DESCRIPTION



**Course goal:**

The course is an in-depth training and conveys profound knowledge on the overhaul of HMB-1 /-2, operating mechanisms.

**Participant profile:**

Field service engineer for Hitachi, preferably on high voltage products or high current systems. Willingness to travel and work for the global service network.

**Prerequisites:**

- Good English skills (written and spoken)
- Ability to read diagrams is required
- Electrical skills
- Mechanical skills
- Attended the local required health & safety
- Training
- First aid course with a certificate
- Own PSE
- Computer with admin rights

**Main learning objectives:**

- Working principle and troubleshooting
- Exchanging modules
- Repair and overhaul of the complete mechanism
- Adjustment of spring travel switch and auxiliary switch

**This is a theoretical and practical training course.**

**Certification:**

A certificate, valid for 1 year will be issued after successful participation in this course, as part of the certification process.

Within 12 months, an on-site assessment must be carried out along with a final review to receive a certificate, valid for another 3 years.

**Duration:**

5 days

**Enrolments:**

Send your request to

[GIS-GCB\\_Training@hitachienergy.com](mailto:GIS-GCB_Training@hitachienergy.com)

|                                                             |               |               |  |                |       |
|-------------------------------------------------------------|---------------|---------------|--|----------------|-------|
| PREPARED                                                    |               | STATUS        |  | SECURITY LEVEL |       |
| 2024-07-26                                                  | Manuel Engler | Approved      |  | Public         |       |
| APPROVED                                                    |               | DOCUMENT KIND |  |                |       |
| 2024-07-26                                                  | Zsofia Fodor  | Agenda        |  |                |       |
| TITLE                                                       |               |               |  |                |       |
| Operating mechanisms HMB-1 /-2 Maintenance Training Level 4 |               |               |  |                |       |
| OWNING ORGANIZATION                                         |               | DOCUMENT ID   |  | REV.           | LANG. |
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| Day | Subject                                                     | Location                    |
|-----|-------------------------------------------------------------|-----------------------------|
| 1   | <b>Welcome / Introduction to Hitachi Energy Switzerland</b> | Classroom                   |
|     | ❖ Training Introduction / Presentation                      |                             |
|     | ❖ Safety Induction                                          |                             |
|     | ❖ Certification Process                                     |                             |
| 2   | <b>Operating mechanism Safety instruction</b>               | Classroom                   |
|     | <b>Basic training</b>                                       |                             |
|     | ❖ Working principle of the system                           |                             |
|     | ❖ Detailed view of the system parts                         |                             |
| 3   | <b>Hands-on training</b>                                    | Classroom<br>Training field |
|     | ❖ Functions of spring limit switch                          |                             |
|     | ❖ Functions of auxiliary switch                             |                             |
|     | ❖ Checklist for failure investigation                       |                             |
| 4   | <b>Hands-on training</b>                                    | Classroom<br>Training field |
|     | ❖ Pilot valves                                              |                             |
|     | ❖ Overflow valve                                            |                             |
|     | ❖ Interlocking pin                                          |                             |
| 5   | <b>Hands-on training</b>                                    | Classroom<br>Training field |
|     | ❖ Bushings                                                  |                             |
|     | ❖ Working module/piston rod and P plug                      |                             |
|     | ❖ Springs                                                   |                             |
| 5   | <b>Hands-on training</b>                                    | Classroom<br>Training field |
|     | ❖ Pump module and motor / Pump element                      |                             |
|     | ❖ Control module and pilot valves                           |                             |
| 5   | <b>Hands-on training</b>                                    | Classroom<br>Training field |
|     | ❖ Storage module                                            |                             |
|     | ❖ Oil filling and evacuation                                |                             |
|     | ❖ Spring travel switch installation and adjustment          |                             |
| 5   | <b>Special tools and devices</b>                            | Classroom<br>Training field |
|     | <b>Troubleshooting tips</b>                                 |                             |
|     | <b>Exam</b>                                                 |                             |
|     | <b>Final Discussion</b>                                     |                             |
| 5   | <b>Farewell</b>                                             | Classroom<br>Training field |
|     |                                                             |                             |