

# GIS Commissioning Classic Training Level 3 Field Service Engineer Training

TRAINING CENTER SWITZERLAND – COURSE DESCRIPTION

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APPROVED BY Zsofia Fodor	APPROVAL DATE 2022-10-21			
OWNER Head of Training	DOCUMENT KIND Agenda			
TITLE GIS-L3-applicable for all classic products-training agenda				
OWNING ORGANIZATION CH-Zurich-2657-Field Service Hitachi Energy	DOCUMENT ID 2GHE004408	REV. A	LANG. en	PAGE 1/4

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**Course goal:**

The course conveys knowledge on the commissioning of classic types transmission GIS manufactured by Hitachi Energy in Switzerland.

**Prerequisites:**

- Degree in electrical engineering
- Good English skills (written and spoken)
- Ability to read wiring diagrams is required
- On-site experience on GIS Installation and/or Commissioning
- Attended the local required Health & Safety Training
- First aid course with certificate
- Own PSE
- Computer with admin rights

**Main learning objectives:**

- Understand the functions of all GIS components
- Circuit breaker commissioning
- Operating mechanisms commissioning
- Interlocking commissioning
- VT & CT commissioning
- Interlocking commissioning
- Secondary commissioning
- Reporting

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

**Certification:**

A confirmation will be issued after successful participation in this course, as part of the certification process.

Within a 12 months period, an on-site assessment must be carried out along with a final review to complete certification.

**Duration:**

10 days

**Enrolments:**

Send your request to

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

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Day	Subject	Location
1	<b>Welcome / Introduction to Hitachi Energy Switzerland</b>	Classroom
	<ul style="list-style-type: none"> <li>❖ Training Introduction / Presentation</li> <li>❖ Safety Induction</li> <li>❖ Certification Process</li> <li>❖ Hitachi Energy GIS-Product Portfolio</li> </ul>	
	<b>General Introduction to Commissioning Personal Skills of the Commissioning Engineer</b>	
2	<b>Introduction to GIS</b>	Classroom
3	<b>Circuit breaker drives HMB/HMC - Theory</b>	Classroom Training field
	<ul style="list-style-type: none"> <li>❖ Introduction to HMB &amp; HMC drives</li> <li>❖ HMB/HMC Functionalities</li> </ul>	
	<b>Circuit breaker drives HMB/HMC - Practical</b>	
	<ul style="list-style-type: none"> <li>❖ HMB/HMC Drive Testing &amp; Test Protocol</li> </ul>	
4	<b>CB Time-stroke testing - Theory</b>	Classroom Training field
	<ul style="list-style-type: none"> <li>❖ Introduction to time-stroke testing</li> <li>❖ Testing equipment</li> <li>❖ Introduction to CABA Win software</li> <li>❖ Dual ground timing test</li> </ul>	
	<b>CB Time-stroke testing - Practical</b>	
	<ul style="list-style-type: none"> <li>❖ Setting up the testing area</li> <li>❖ Connecting the equipment</li> <li>❖ Installation of the software</li> <li>❖ Evaluating the results</li> <li>❖ Adjusting the breaker</li> <li>❖ Time-Stroke Test Protocol</li> </ul>	
5	<b>Isolators and Earth Switches - Theory</b>	Classroom Training field
	<ul style="list-style-type: none"> <li>❖ DH &amp; DB Overview</li> <li>❖ BAC/BAE Electronic board</li> <li>❖ BAC &amp; BAE Interlocking board</li> </ul>	
	<b>Isolators and Earth Switches - Practical</b>	
	<ul style="list-style-type: none"> <li>❖ DH &amp; DB On-Site Testing &amp; Test Protocol</li> <li>❖ BAC &amp; BAE On-Site Testing &amp; Test Protocol</li> </ul>	
	<b>Week Review</b>	
	<b>Q and A session</b>	

Day	Subject	Location
6	Instrument Transformers - Theory	Classroom Training field
	❖ VT & CT introduction	
	❖ Applicable Regulations	
	Instrument Transformers - Practical	
	❖ VT Testing	
	❖ VT Test Protocol	
	❖ CT Testing	
	❖ CT Test Protocol	
7	Secondary systems - Theory	Classroom Training field
	❖ Density monitors	
	❖ BCU	
	❖ PoW controllers	
	❖ MSM	
	❖ Protection relays	
8	Drawings and Interlocking - Theory	Classroom Training field
	❖ Introduction to Drawings	
	❖ Explanation of the interlocking	
	❖ Interlocking matrix	
	❖ Exercises	
9	Product exercise(s)	Classroom Training field
	❖ Cabling and earthing/grounding part	
	❖ Cable “first” connection	
	❖ Cable trays arrangement	
	❖ Studying of Earthing layout	
	❖ Installation of the earthing and system grounding	
10	Documentation - Theory	Classroom Training field
	❖ Test Reports	
	❖ Red Marks	
	❖ Field Report	
	❖ NCRs	
	Q and A session	
	Commissioning exam	
	End of training	