

Technology Courses

Courses Level and Relationships

Typical Customer Target Groups: Executives, Operators, Maintenance Personnel, Consultants and Others

Typical ABB Target Groups: Managers, Sales, Project Managers

Typical Customer Target Groups: Planning Personnel, Commissioning Personnel, System Engineers, Channel Partners, Consultants and Others

Typical ABB Target Groups: Engineering Personnel, Testing Personnel, Commissioning Personnel, Service Personnel

Level 1 Courses	Focus: Fundamentals, Operation,	Level 2 Courses	Focus: Application, Configuration,	Level 3 Courses	Focus: Engineering
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THEORY - Power Integration

CHP101	5 days
Power Grids Integration and Automation Technology – Fundamentals	

THEORY - Power System & Substation Automation

CHP101	CHP184	2 days
	Digital Substation Architecture Design – Applications	
CHP101	CHP108	2 days
	Cyber Security for Power Utilities – Applications	

THEORY - Protection

CHP101	CHP131	5 days	CHP132 or CHP131	CHP188	5 days	
	Protection in Power Plants – Applications					Protection Studies for various Power Networks – Advanced Solutions
CHP101	CHP132	5 days				
	Protection for Lines, Busbars, CBs & Power Transformers –					
CHP101	CHP134 (*)	5 days	Protection for Distribution Networks and Industry –			

THEORY - Communication Networks


CHP525	2 days
Utility MPLS-TP Networks – Fundamentals	
CHP520 (*)	2 days
Utility SDH Networks – Fundamentals	
CHP522 (*)	2 days
Ethernet Switching and TCP/IP – Introduction	

We offer new all courses as a remote classroom training together with instructor led course. So, you have the choice, rather to attend the course physically in Baden or you take it remotely with a live session from home and with the possibility of remote connection to the training-model. All remote courses run always from 9AM - 4PM CET with breaks.

Level 1 Courses	The participants acquire fundamental knowledge on a specific subject or product basics. Level 1 courses are typically for newcomers. E.g. general philosophies, basic structures, - concepts, coherences with other technologies, HW structure, function overview, using of HMI's etc.
Level 2 Courses	The participants gain an in-depth/advanced knowledge on a specific subject or application implement to a specific product. To attend level 2 courses we recommend knowledge on level 1 or equivalent job experiences. E.g. advanced application function knowledge, base design of a transformer protection solution, basic setting calculation of protection function, configuring & testing/troubleshooting of the IED, complete system modification and integration of add. parts.
Level 3 Courses	The participants gain complex advanced knowledge on a subject or for system integration. To attended level 3 courses normally requires wide and/or in-depth knowledge on level 1+2 in multiple fields or equivalent job experiences. E.g. design complex system solutions, overall study + design of a protection concepts, substation architecture, integration and engineering from crash (e.g. channel partners), etc.

(*) = Course on request for special groups of 5 and more
 (***) = Special course for customers with SAS600 Systems
 Pxxxx = Web based training (WBT)

CHP1xx ⇐ = Previous course or equivalent experience is recommended
 CHP1xx ⇨ = Previous course or equivalent experience is **required** !

 = New or updated Courses

Several courses above can be conducted on request in other languages with English documentation.

Substation Automation Courses

System Courses – Level and Relationships

Typical Customer Target Groups: Executives, Operators, Maintenance Personnel, Consultants and Others

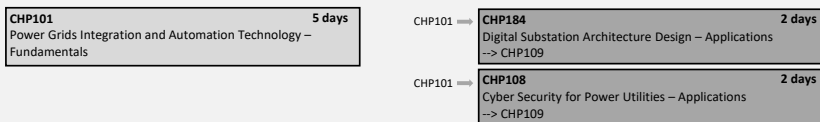
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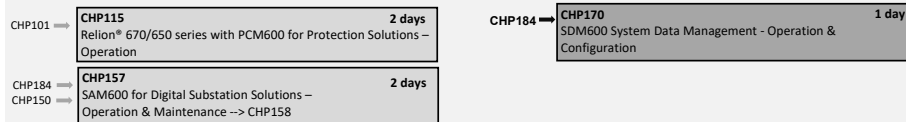
Typical ABB Target Groups: Engineering Personnel, Testing Personnel, Commissioning Personnel, Service Personnel

Level 1 Courses	Focus: Fundamentals, Operation, Maintenance ...	Level 2 Courses	Focus: Application, Configuration, Modification, Integration, Testing	Level 3 Courses	Focus: Engineering (e.g. Channel Partners)
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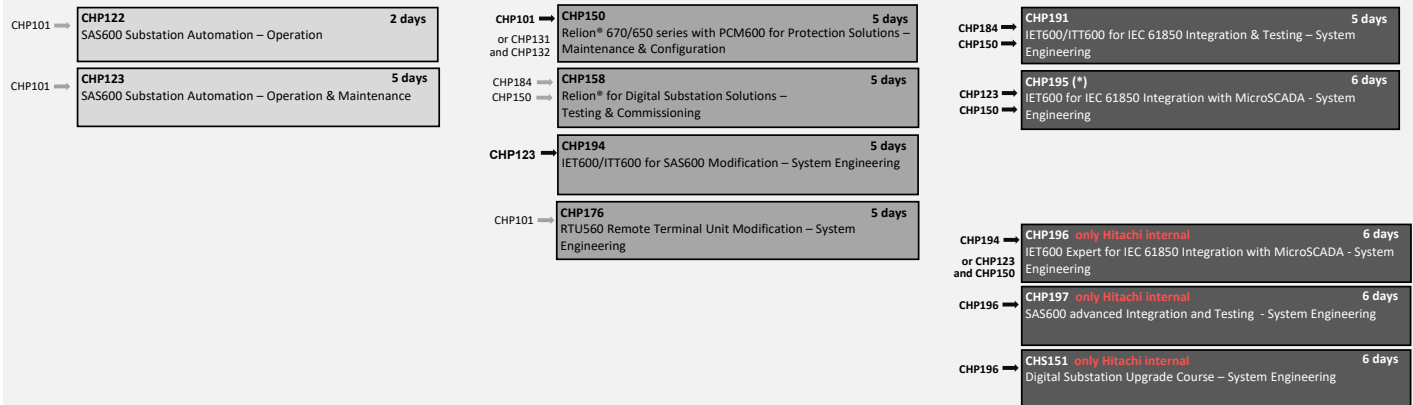
THEORY - Substation Automation



PRODUCT - Substation Automation



SYSTEM - Substation Automation



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Protection Courses

Courses Level and Relationships

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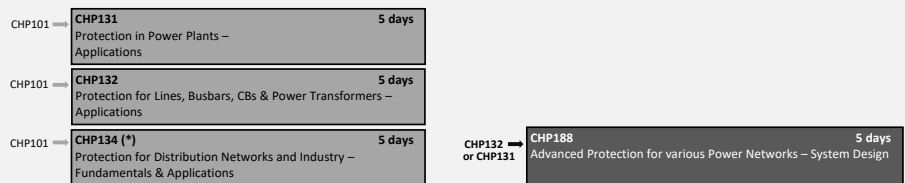
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Typical Customer Target Groups: Planning Personnel, Commissioning Personnel, System Engineers, Channel Partners, Consultants and Others

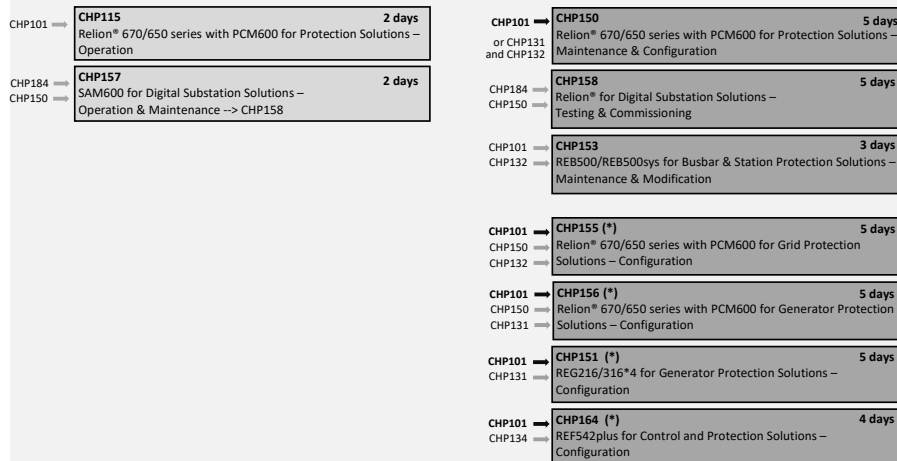
Typical ABB Target Groups: Engineering Personnel, Testing Personnel, Commissioning Personnel, Service Personnel

Level 1 Courses	Focus: Fundamentals, Operation, Maintenance ...	Level 2 Courses	Focus: Application, Configuration, Modification, Integration, Testing	Level 3 Courses	Focus: Engineering (e.g. Channel Partners)
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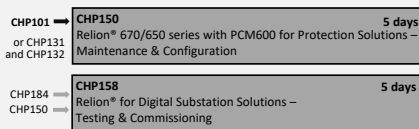
THEORY - Protection



PRODUCT - Protection



SYSTEM - Protection



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Communication Networks

Theory, Product & Network Mgt System Courses – Level and Relationships

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Typical ABB Target Groups: Engineering Personnel, Testing Personnel, Commissioning Personnel, Service Personnel

Level 1 Courses Focus: Fundamentals, Operation, Maintenance ...

Level 1 Courses Focus: Fundamentals, Operation, Maintenance ...

Level 2 Courses Focus: Application, Configuration, Modification, Integration, Testing

Level 3 Courses Focus: Engineering (e.g. Channel Partners)

T H E O R Y - Communication Network

CHP525 Utility MPLS-TP Networks – Fundamentals	2 days
CHP520 (*) Utility SDH Networks – Fundamentals	2 days
CHP522 (*) Ethernet Switching and TCP/IP – Introduction	2 days

P R O D U C T - Communication Network

CHP101 ==> CHP520 ==> CHP522 ==>	CHP595 FOX615 Multiservice Platform for SDH Networks	5 days
CHP522 ==> CHP525 ==>	CHP598 FOX615 Multiservice Platform for MPLS-TP Networks	5 days
	CHP593 (***) FOXMAN-UN Network Management System as Operator	3 days
	CHP554 (*) (***) FOXView Enterprise Network Management System	1 day
CHP101 ==> CHP520 ==>	CHP592 (*) FOX515 Access/Transport MUX	5 days
CHP520 ==> CHP522 ==>	CHP552 (*) FOX515H & Hs Multiservice Utility-MUX	3 days
CHP101 ==> CHP520 ==>	CHP553 (*) FOX505 Access MUX	4 days
CHP520 ==> CHP522 ==>	CHP556 (*) FOX660 Multiservice Utility MUX for TDM Transport	3 days
CHP522 ==> CHP525 ==>	CHP555 (*) FOX605 A Secure MPLS enabled Utility MUX	4 days
CHP522 ==>	CHP570 ETL600 R4 Universal Digital PLC Equipment	5 days
	CHP574 NSD570 Teleprotection Equipment	2,5 days
CHP522 ==>	CHP558 AFS600 Switch Family	3 days
CHP522 ==>	CHP588 SV9500 Appliance Server Telephone System	5 days
CHP522 ==>	CHP589 (*) SV9500 Standard Server Telephone System	5 days
CHP522 ==>	CHP590 SV9100 Telephone System	5 days
CHP593 ==>	CHP594 FOXMAN-UN Network Management System as Administrator	2 days
CHP574 ==> CHP107 ==>	CHP575 NSD570 IEC61850 GOOSE Interface	1,5 days
CHP558 ==> CHP522 ==> CHP108 ==>	CHP560 AFF Firewall	2 days

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(*) = Course on Request
 (**) = Course delivered through the LC SAS & Protection
 (***) = Attendance of equipment courses that have to be managed by the NMS is required.
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