



ABB s.r.o., ELDS BRNO
Videnska 117
CZ-619 00 BRNO

17.5 kV SWITCHGEAR TYPE UNIGEAR ZS1

CUSTOMER: ABB EE
CUSTOMER REF. No.:
ABB REF. No.: 1000057554

SWITCHGEAR BASIC DATA

STANDARD	IEC 62271-200
RATED VOLTAGE	17.5 kV
SERVICE VOLTAGE	10.5 kV
RATED FREQUENCY	50 Hz
POWER FREQUENCY WITHSTAND VOLTAGE / BIL	38 kV / 95 kV
RATED BUSBAR CURRENT	2000 A
RATED SHORT-TIME WITHSTAND CURRENT / MAKE CURRENT	31.5 kA / 80 kA
RATED DURATION OF SHORT CIRCUIT	1 s
RATED SHORT-TIME WITHSTAND CURRENT FOR EARTHING CIRCUITS	31.5 kA
RATED DURATION OF SHORT CIRCUIT FOR EARTHING CIRCUIT	1 s
INTERNAL ARC CLASSIFICATION (IAC) TYPE	AFLR
INTERNAL ARC CLASSIFICATION (IAC) CURRENT	31.5 kA
INTERNAL ARC CLASSIFICATION (IAC) TIME	1 s
DEGREE OF PROTECTION	IP4X
DEGREE OF PROTECTION - INTERNAL	IP20
MV PHASE DESIGNATION	L1, L2, L3
AMBIENT TEMPERATURE	-5 °C ... 40 °C
ALTITUDE	≤1000 m

ABB PROJECT REALIZATION TEAM

PROJECT MANAGER: PETLACHOVA Kristyna
PROJECT ENGINEER: JARUSEK Jakub
DESIGN ENGINEER: TRNKA Petr

DURING THE INSTALLATION, COMMISSIONING PERIOD AND THE TIME OF OPERATION, CLIENT IS OBLIGED TO FOLLOW ALL INSTRUCTIONS AND RECOMMENDATION GIVEN BY MANUFACTURERS OF INDIVIDUAL INSTRUMENTS INSTALLED INSIDE SUPPLIED EQUIPMENT


Drawn by JARUSEK Jakub		Checked by GREGOR David		Released by BRAUN Jiri		Project number 1000057554		Customer project number TENDER No.		Project name EE-10.5KV IRU CHP PLANT (EXTENSION)		Installation = K00	
Revision		Date		Name		Remark		Customer document number		Page description COMMON DRAWINGS PROJECT TITLE PAGE		Place of installation +	
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=K00/A02	SHEET INDEX			
=K00/C01	GEN. SPECIFICATION OF SWGR.			
=K00/C02	GEN. SPECIFICATION OF SWGR.			

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GENERAL INFORMATION

SWITCHGEAR TYPE UniGear Single busbar system
 PACKING Wooden pallet

SECONDARY WIRES PARAMETERS

STANDARD		ABB ELDS Brno Standard 1VLD110036
AC CIRCUIT	PHASE	BK (Black) / 1.5 mm ²
	NEUTRAL	LB (Light blue) / 1.5 mm ²
DC CIRCUIT	POSITIVE	BK (Black) / 1.5 mm ²
	NEGATIVE	BK (Black) / 1.5 mm ²
CT SECONDARY CIRCUIT	PHASE 1	BK (Black) / 4 mm ²
	PHASE 2	BK (Black) / 4 mm ²
	PHASE 3	BK (Black) / 4 mm ²
	COMMON	BK (Black) / 4 mm ²
VT SECONDARY CIRCUIT	PHASE 1	BK (Black) / 1.5 mm ²
	PHASE 2	BK (Black) / 1.5 mm ²
	PHASE 3	BK (Black) / 1.5 mm ²
	NEUTRAL	LB (Light blue) / 1.5 mm ²
EARTHING CIRCUIT		GNYE (Green-yellow) / 4 mm ²
SUPPLY INTERCONNECTION		4 mm ²
LOGIC INTERCONNECTION		2.5 mm ²
SECONDARY WIRES TERMINATION		Non insulated crimping
MARKING OF WIRE ENDS (MATERIAL)		Terminal (White ring ferrules) *)
SEC. WIRES TYPE AND NOMINAL VOLTAGE		PVC - Flame retardant, 0.45/0.75 kV


AUXILIARY VOLTAGES

CONTROL/SIGNALIZATION/PROTECTION CIRCUITS	2 DC 110 V, 6 kA
CIRCUIT BREAKER SPRING CHARGER MOTOR	2 DC 110 V, 6 kA
CIRCUIT BREAKER TRUCK MOTOR	-
EARTHING SWITCH MOTOR DRIVE	-
2nd TRIPPING COIL	2 DC 110 V, 6 kA
INTERNAL LIGHTING AND HEATING	1/N AC 230 V, 50 Hz, 6 kA
AUXILIARY VOLTAGES CONNECTION POSITION	Bus riser

OTHER ELECTRICAL PARAMETERS

TERMINALS TYPE / PRODUCER	Screw type / Weidmüller
FAULT LIMITING DEVICE	TVOC/Lens sensors in all compartments
ANTICONDENS. HEATER IN COMP. LV/CB/CABLE	Yes/No/Yes
INTERNAL LIGHTING	LV compartment light with IR sensor
REMOTE COMMUNICATION PROTOCOL	None
IED COMMUNICATION PROTOCOL 1st / 2nd	IEC 61850 Single / N/A/1.0
COMMUNICATION MEDIA	Galvanic (RJ45)

*) BECAUSE OF TECHNICAL REASONS, MARKING FOR THE INTERCONNECTION WIRES (I.E. FOR THE BUNDLES OF WIRES BETWEEN PANELS) WILL BE OF THE TERMINAL TYPE ON WHITE RING FERRULES.


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=K00+SLD/D01	SINGLE LINE DIAGRAM			

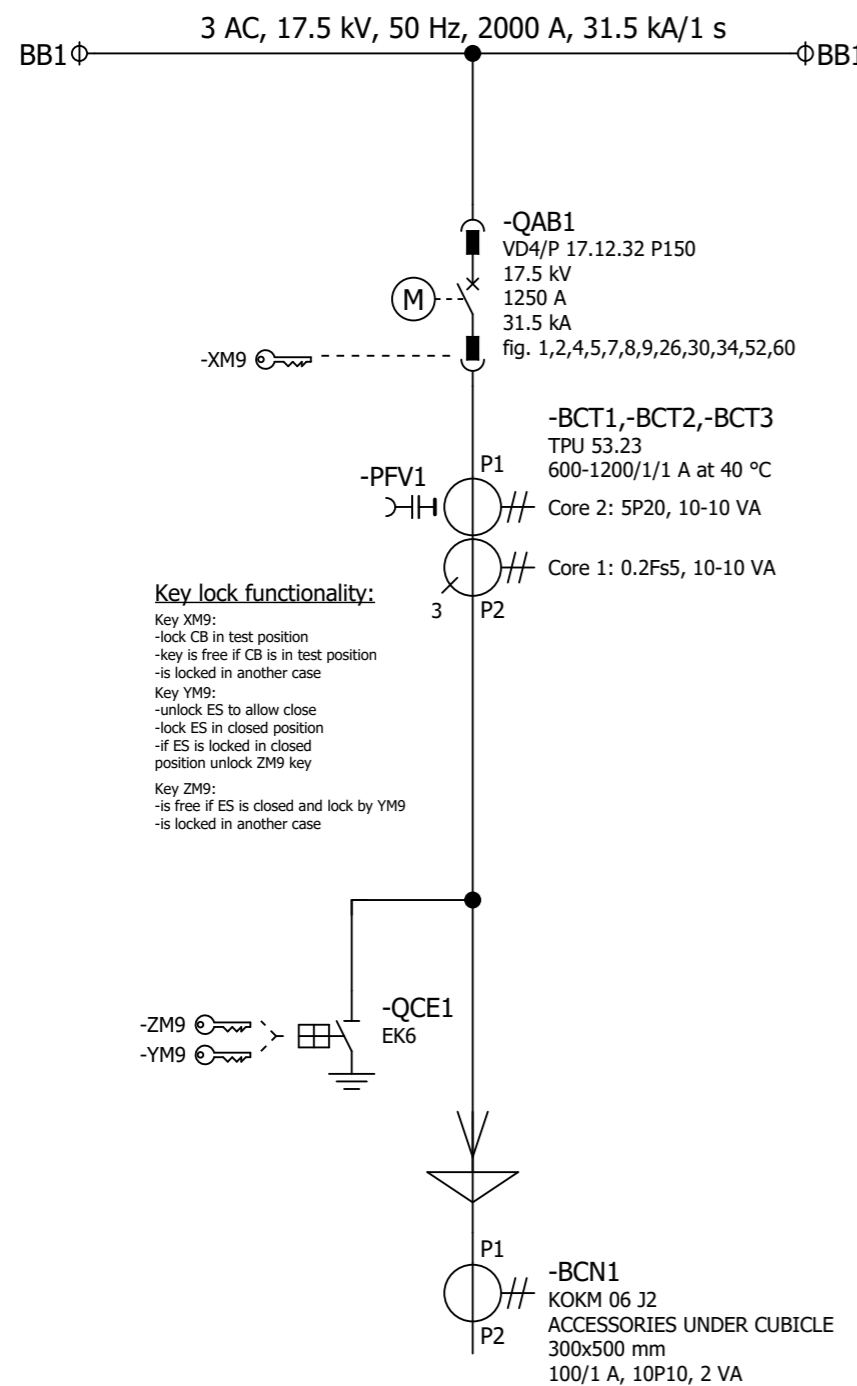
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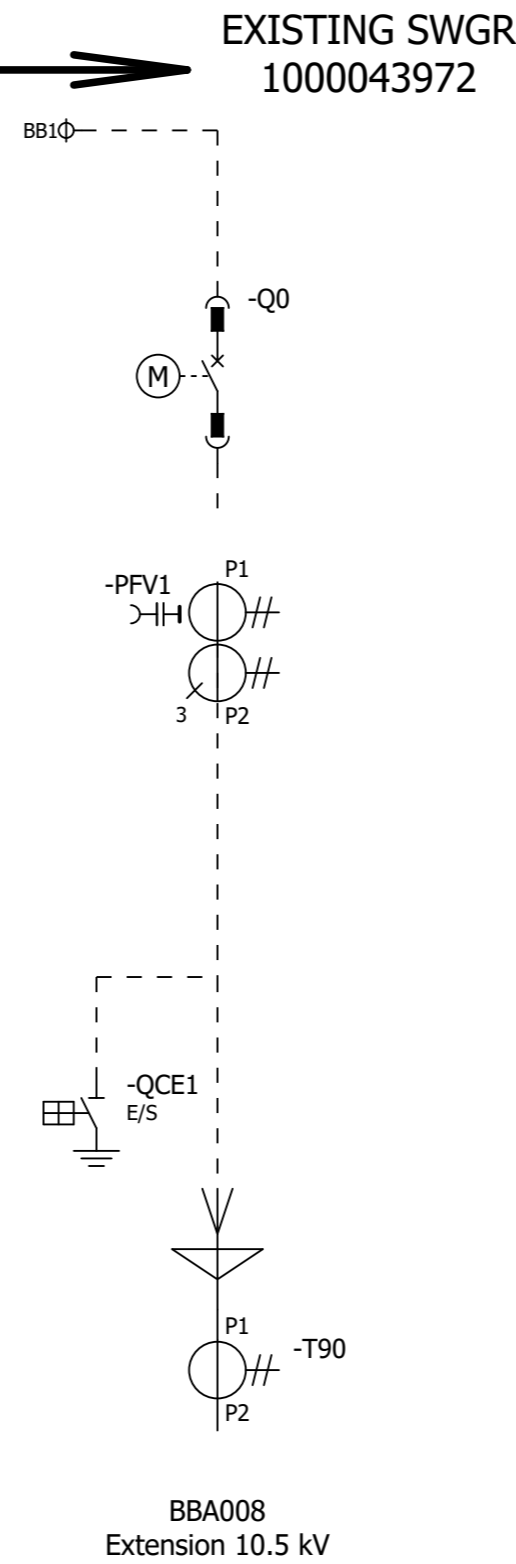
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Key lock functionality:

- Key XM9:
 - lock CB in test position
 - key is free if CB is in test position
 - is locked in another case
- Key YM9:
 - unlock ES to allow close
 - lock ES in closed position
 - if ES is locked in closed position unlock ZM9 key
- Key ZM9:
 - is free if ES is closed and lock by YM9
 - is locked in another case

PANEL	1	BBA009
PANEL NAME	FEEDER	
DRAWING Nr.	1VLB057554-0100	
PROT. RELAY	REF 630 UBFNBAABBBAZNAXD	
PROT. FUNCT.	27,32,46,47,49T,59,50,51,51B,50N, 51N (OR 50G, 51G),62BF,67,86,96	
METERING FUNCT.	3I,I _n ,3U,V _n ,P, E,f,DREC,I1, I2, I0,U1, U2, U0,CBCM,P, Q, E, pf, f	
COMMUNICATION		
METERING, TEST AND CONTROL EQUIPMENT	⊗⊗⊗ -PFV1	TEST SOCKET ESSAILEC



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COMMON DRAWINGS
SINGLE LINE DIAGRAM