

HDW3 ATS Controller



Product Introduction

HDW3 automatic transfer controller is an intelligent ATSE controller with programmable functions, automatic measuring, LCD menu display, and digital communication. It can automatically realize voltage, frequency, phase etc. electrical parameters measurement and automatic control according to setting strategy which can reduce human operation error. It is an ideal product of ATSE.

HDW3 automatic transfer controller consists of microprocessor as core. 3-phase voltage and make precise recognition about abnormal voltage (over-voltage, under-voltage, missing phase, over-frequency, under-frequency) . This device considers fully the application with compact structure, advanced circuit, simple wiring, highly reliable, it can be widely applied to electrical devices, automatic control and debug system in industry of power, post and telecommunications, petroleum, coal, metallurgical, railway, mu

ATSEC2

Two-source AC power input
Main power source and standby power source



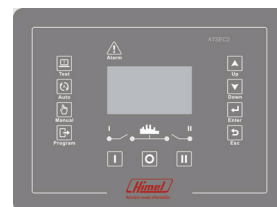
ATSECM

Two-source AC power input
Two Main power source and tie bus interlock



ATSEC3

Three-source AC power input
Main power source and two standby power source



HDW3 ATS Controller



Main function of ATS controller

ATSEC2

Two-source AC power input
Main power source and standby power source

functional parameter

- Graphic LCD 128x64 pixel;
- Two-source AC power input: 3-phase 3-wire, 3-phase 4-wire;
- Measured values, settings, and message texts are supported in English and Chinese
- 10~30VDC power supply.
- Detection function for over-voltage, under-voltage, phase loss, reverse phase sequence, over-frequency, under-frequency;
- 8-channel programmable digital input (grounding effective);
- 10-channel programmable digital output;
- Integrated RS-485 isolation interface, MODBUS protocol;
- Storage of last 200 events;
- Real time clock
- All parameters are field programmable, use password access to avoid misoperation by unprofessional persons;
- The fixed washer is IP65 degree of protection
- Module structure design, Retardant PC cover, pluggable terminal, embedded installation mode, compact structure and easy installation;

Main function of ATS controller

ATSECM

Two-source AC power input
Two Main power source and tie bus interlock

functional parameter

- Graphic LCD 128x64 pixel, 5 inch TFT;
- Two-source AC power input: 3-phase 4-wire; (Three -source AC power input-ATSEC3)
- Measured values, settings, and message texts are supported in English and Chinese;
- 12~48VDC power supply;
- Detection function for over-voltage, under-voltage, phase loss, reverse phase sequence, over-frequency, under-frequency;
- 8-channel programmable digital input (grounding effective);
- 10-channel programmable digital output;
- Integrated RS-485 isolation interface, MODBUS protocol;
- Storage of last 200 events;
- Real time clock;
- All parameters are field programmable, use password access to avoid misoperation by unprofessional persons;
- The fixed washer is IP65 degree of protection;
- Module structure design, Retardant PC cover, pluggable terminal, embedded installation mode, compact structure and easy installation;

ATSEC3

Three-source AC power input
Main power source and two standby power source

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Parameter					
Parameter	Definition	Default	ATSE2C	ATSECM	ATSE3C
Basic Parameter					
operation temperature	-20 +70		■	■	■
storage temperature	-30 +85		■	■	■
Humidity	20% 90%		■	■	■
Altitude	≤2000m		■	■	■
Breaker Operation voltage(V)	AC 230/415V	AC 230V	■	■	■
ATS Operation voltage(V)	AC 230V/415V DC10-30V		■	■	■
IP degree	IP20		■	■	■
Display	LCD , English ,Chinese	English	■	■	■
Parameter Setting					
Power source voltage	AC 50-415V		■	■	■
Power source frequency	50 Hz/60 Hz	50 Hz	■	■	■
Power grid	3 Pole 4 wires / 3 Pole 3 wires	3P4W	■	■	■
ATSE2C/ATSECM power transfer type	M-M:Mains to Mains Supply M-G:Mains to Generator Supply G-M:Generator to Mains Supply	M-M	■	■	
ATSE3C power transfer type	M-M:Mains to Mains Supply to Mains Supply M-M:Mains to Mains Supply to Generator Supply	M-M			■
RETURNS					
RETURNS model	Self return/No return/Backup eachother	Self return	■	■	■
Power grid	Choose S1 or S2 for Priority Net	S1	■		
Transfer Parameter					
Loss phase/loss voltage	Main & standby power supply		■	■	■
Under voltage	70%-98%	85%	■	■	■
Over voltage	102% -130%	115%	■	■	■
Under frequency	OFF/80%-98%	OFF	■	■	■
Over frequency	OFF/101%-119%	OFF	■	■	■
Phase unbalance	Main & standby power supply		■	■	■
Fire signal	Fire signal D/O switch off all breaker		■	■	■
Manu/Auto	Manu model/Auto model		■	■	■
Dual switch off button	push dual switch off button,switch off all breaker		■	■	■
alarm for transfer failure	panel LED light +sound alarm		■	■	■
Communicate & event log					
Event log	Transfer and alarm event		■	■	■
Communication	RS-485 MODBUS		■	■	■
Dry contact output					
Main power's breaker switch on	10A 250VAC		■	■	■
standby power's breaker switch on			■	■	■
Main power status			■	■	■
standby power status			■	■	■
generator start			■	■	■
Control cabel	ATSE2C default with 2m ATSE3C ATSECM default with 4m		■	■	■

HDW3 ATS Controller



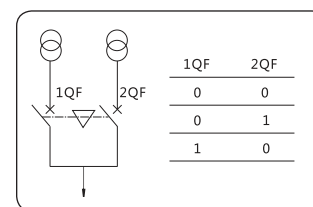
How to order complete set of ATS with ACB

The complete set must including 2 or 3 set ACB cabel interlock ,220VAC motor/shunt release /closing coil,ATS Controller
Do not install key lock with ACB, it will damaged the ACB when automatic transfer
Do not install the undervoltage release with ACB, It will impact ATS automatic transfer
Do not use ACB's MODBUS or remote singal to Switch ON/OFF breaker by MX/XF, It will impact the ATS automatic transfer

Cable Interlocking

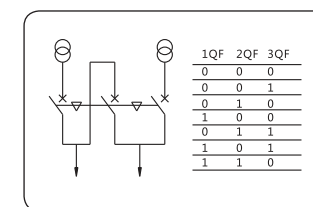
Two Breaker Interlock C2

Interlock type A in which one of the two breakers (B1 or B2)can be switched ON. Each breaker must be equipped with a factory mounted interlock type A. Two cables are needed.



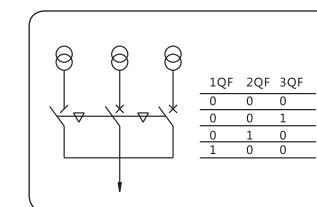
Three Breaker Interlock C3

Interlock type B in which one of the three breakers (B1, B2 or B3) can be switched ON. Each breaker must be equipped with a factory mounted interlock type B. Six cables are needed.

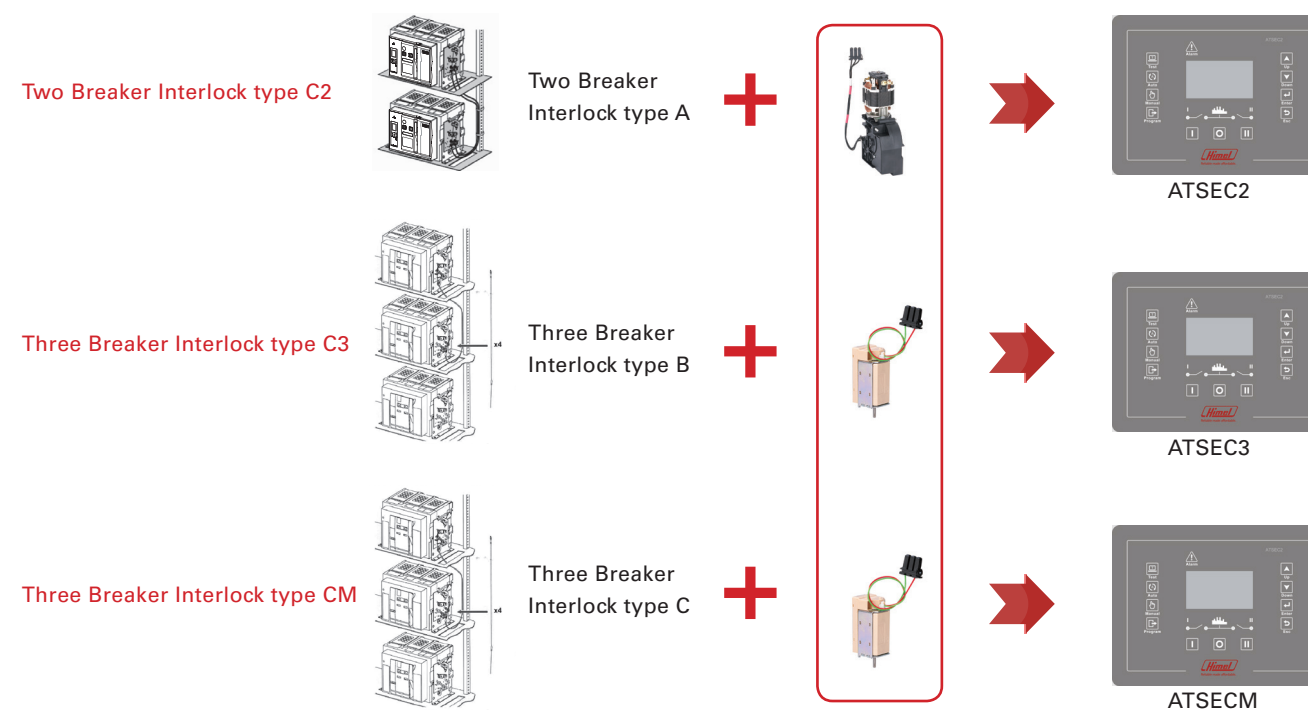


Three Breaker Interlock type CM

Interlock type A in which one of the two breakers (B1 or B2)can be switched ON. Each breaker must be equipped with a factory mounted interlock type A. Two cables are needed.



ATS controller + ACB + Mechanical interlock

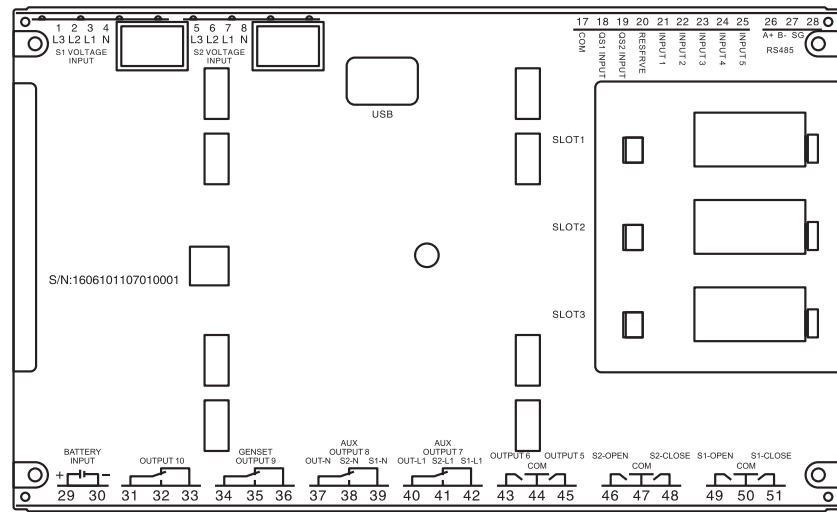


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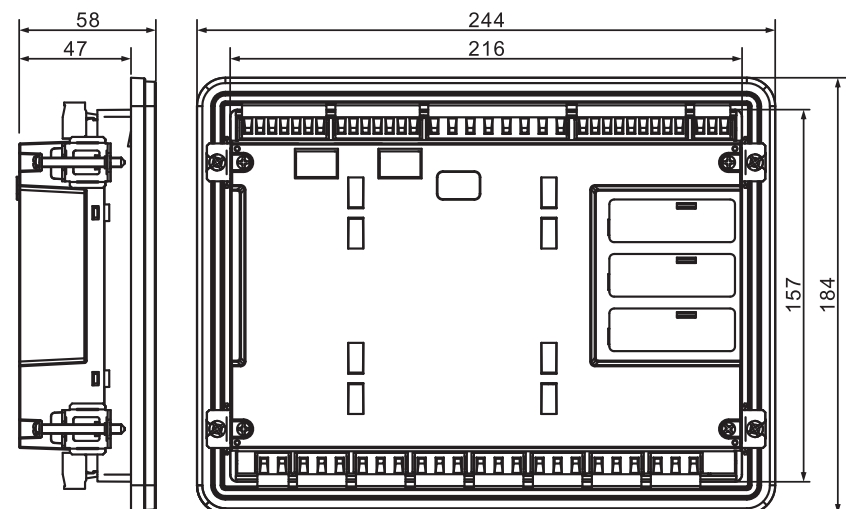


ATS controller-Wiring diagram -ATSEC2

Terminal diagram



Installation Dimension

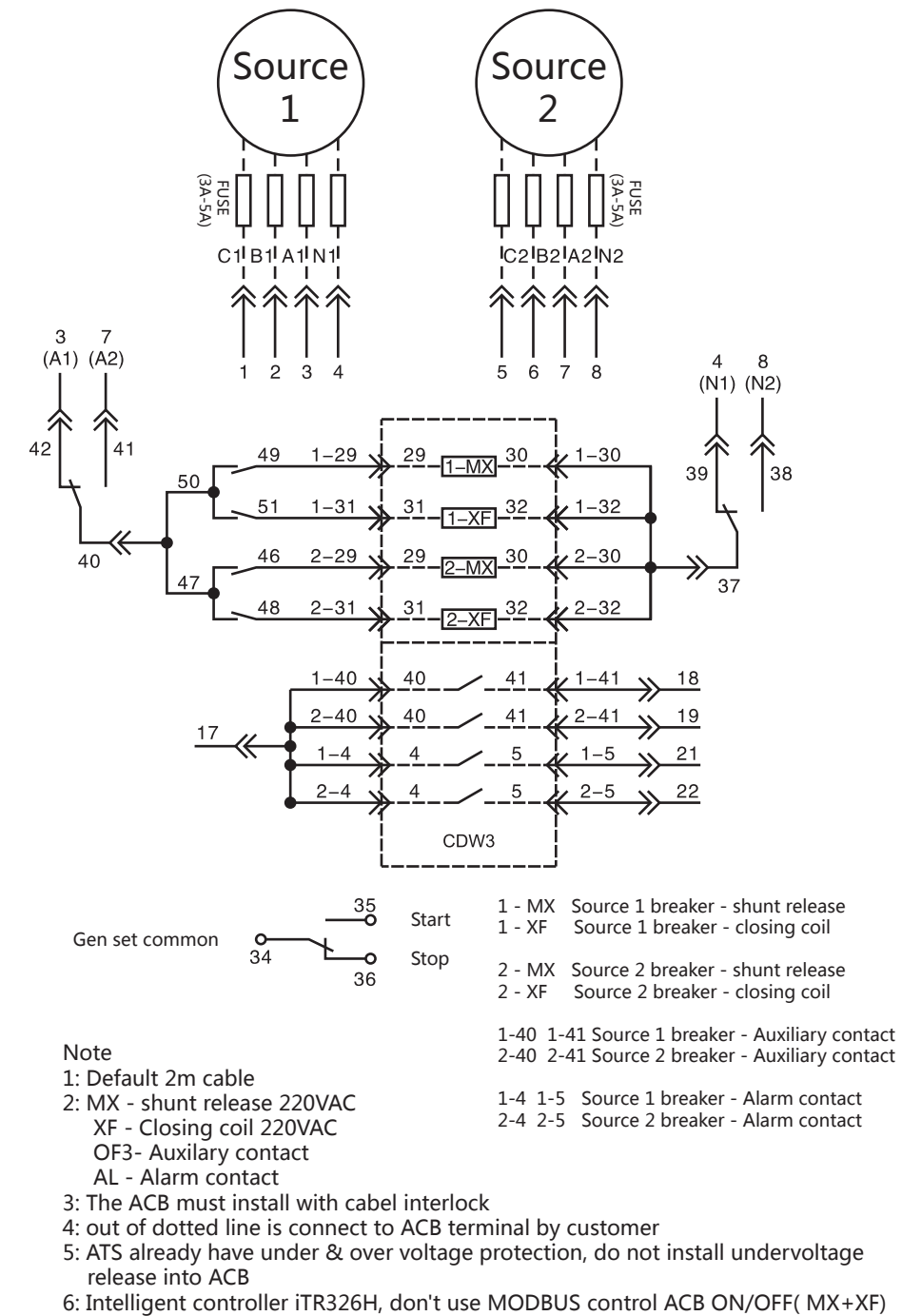


HDW3 ATS Controller



ATS controller-Wiring diagram -ATSEC2

Electrical Schematic Diagram

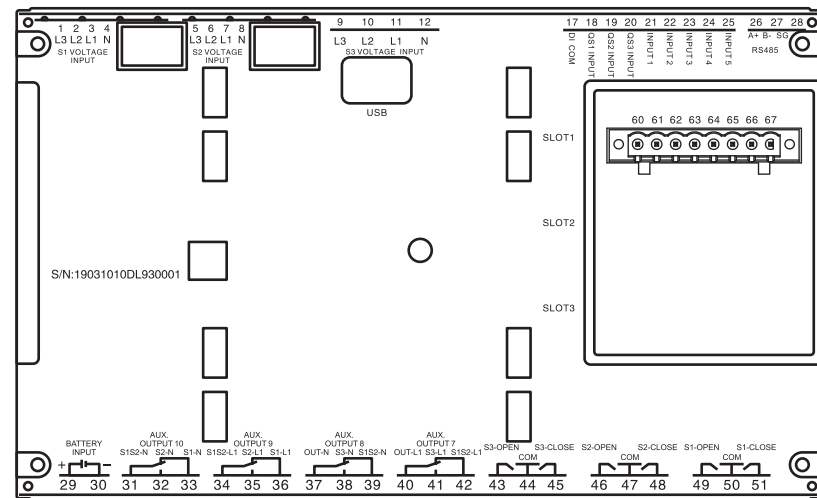


HDW3 ATS Controller

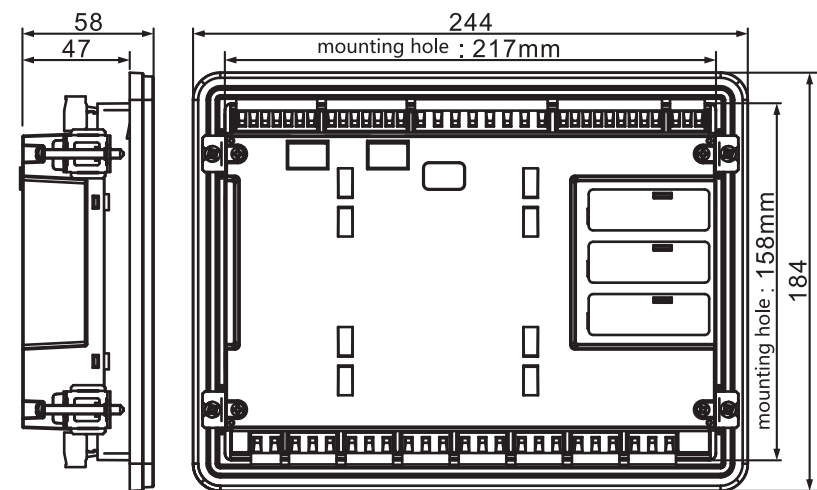


ATS controller-Wiring diagram –ATSEC3

Terminal diagram



Installation Dimension

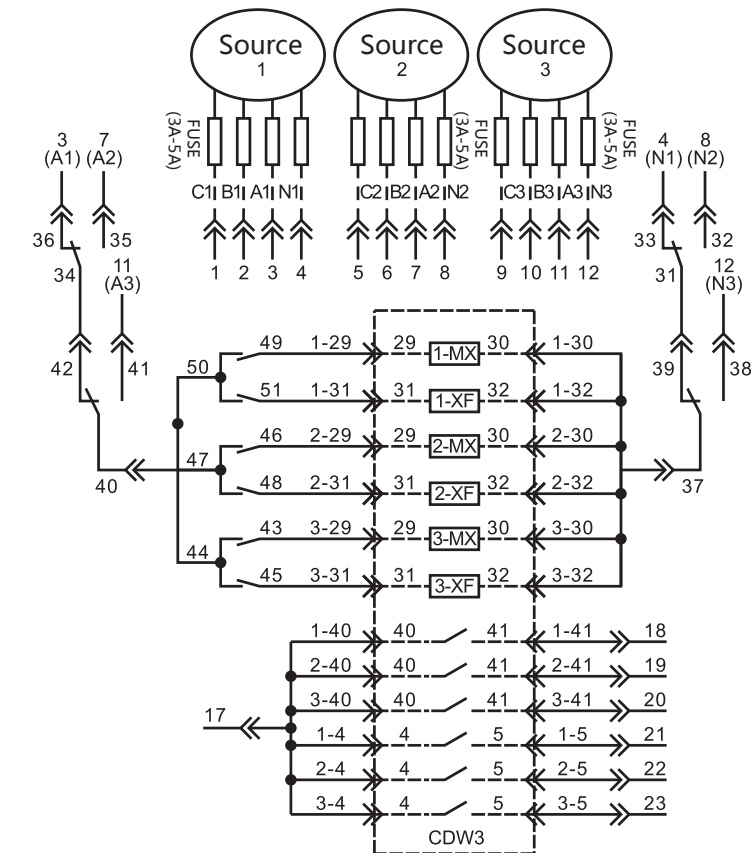


HDW3 ATS Controller



ATS controller-Wiring diagram –ATSEC3

Electrical Schematic Diagram



- 1 - MX Source 1 breaker - shunt release
- 1 - XF Source 1 breaker - closing coil
- 2 - MX Source 2 breaker - shunt release
- 2 - XF Source 2 breaker - closing coil
- 3 - MX Source 3 breaker - shunt release
- 3 - XF Source 3 breaker - closing coil

- 1-40 1-41 Source 1 breaker - Auxiliary contact
- 2-40 2-41 Source 2 breaker - Auxiliary contact
- 3-40 3-41 Source 3 breaker - Auxiliary contact
- 1-4 1-5 Source 1 breaker - Alarm contact
- 2-4 2-5 Source 2 breaker - Alarm contact
- 3-4 3-5 Source 3 breaker - Alarm contact

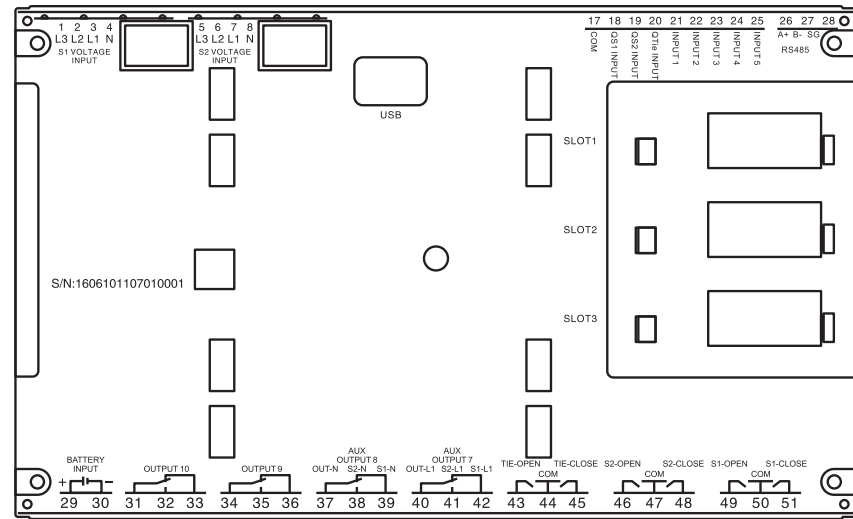
- Note
- 1: Default 4m cable
 - 2: MX - shunt release 220VAC
XF - Closing coil 220VAC
OF3- Auxiliary contact
AL - Alarm contact
 - 3: The ACB must install with cable interlock
 - 4: out of dotted line is connect to ACB terminal by customer
 - 5: ATS already have under & over voltage protection, do not install undervoltage release into ACB
 - 6: Intelligent controller iTR326H, don't use MODBUS control ACB ON/OFF(MX+XF)
 - 7: Not suitable for 1600 frame size

HDW3 ATS Controller

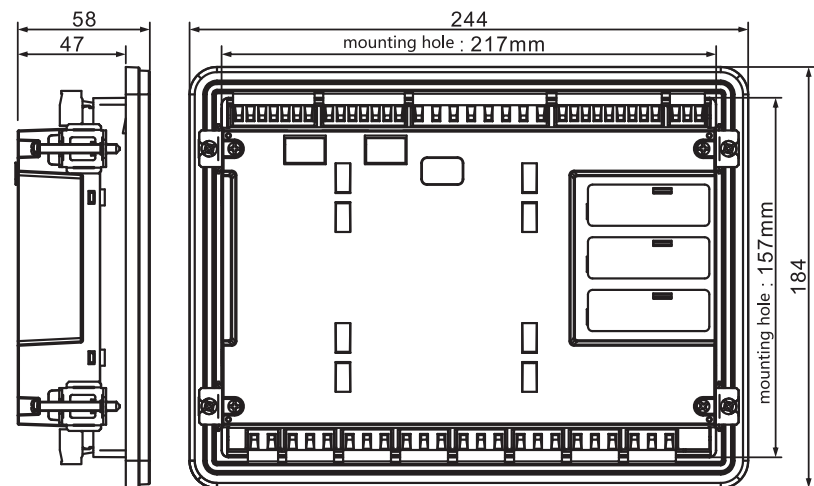


ATS controller-Wiring diagram –ATSECM

Terminal diagram



Installation Dimension

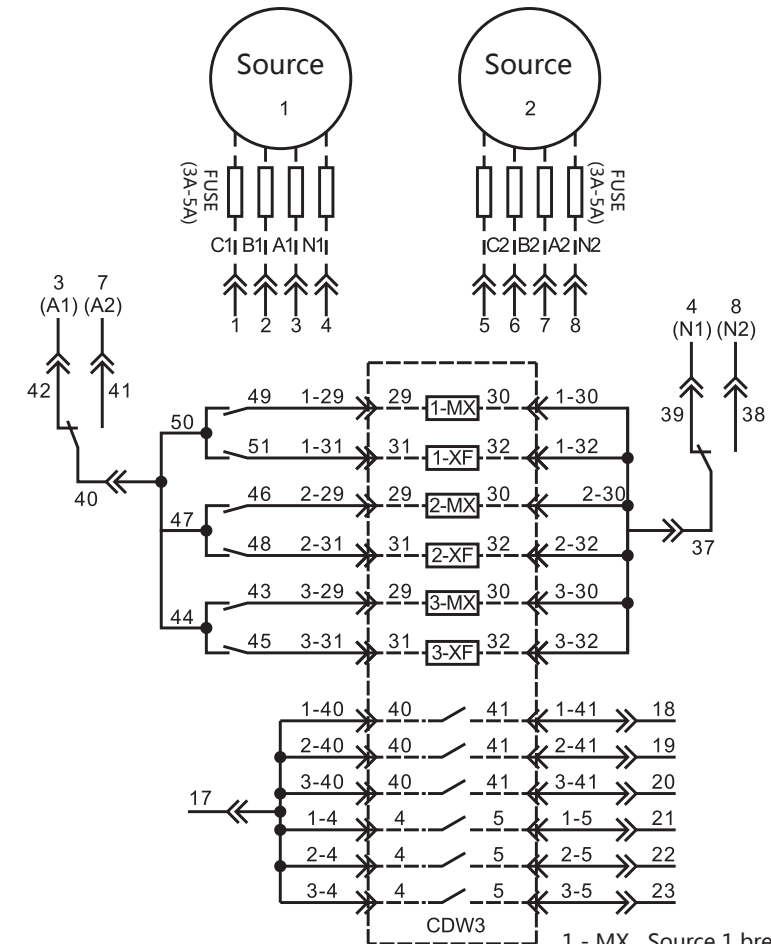


HDW3 ATS Controller



ATS controller-Wiring diagram –ATSECM

Electrical Schematic Diagram

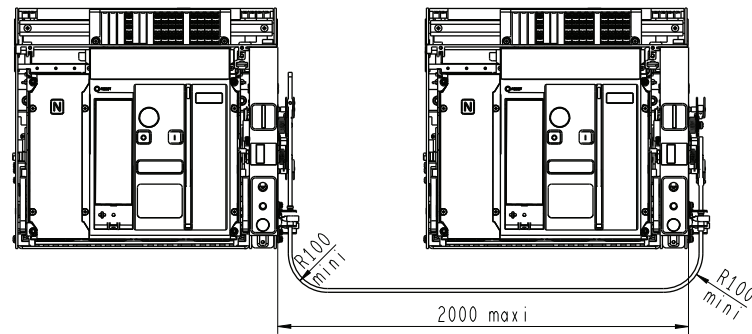


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 - 7: Not suitable for 1600 frame size
- 1 - MX Source 1 breaker - shunt release
1 - XF Source 1 breaker - closing coil
 - 2 - MX Source 2 breaker - shunt release
2 - XF Source 2 breaker - closing coil
 - 3 -MX bus tie breaker - shunt release
3 - XF bus tie breaker - closing coil
 - 1-40 1-41 Source 1 breaker - Auxiliary contact
2-40 2-41 Source 2 breaker - Auxiliary contact
3-40 3-41 bus tie breaker - Auxiliary contact

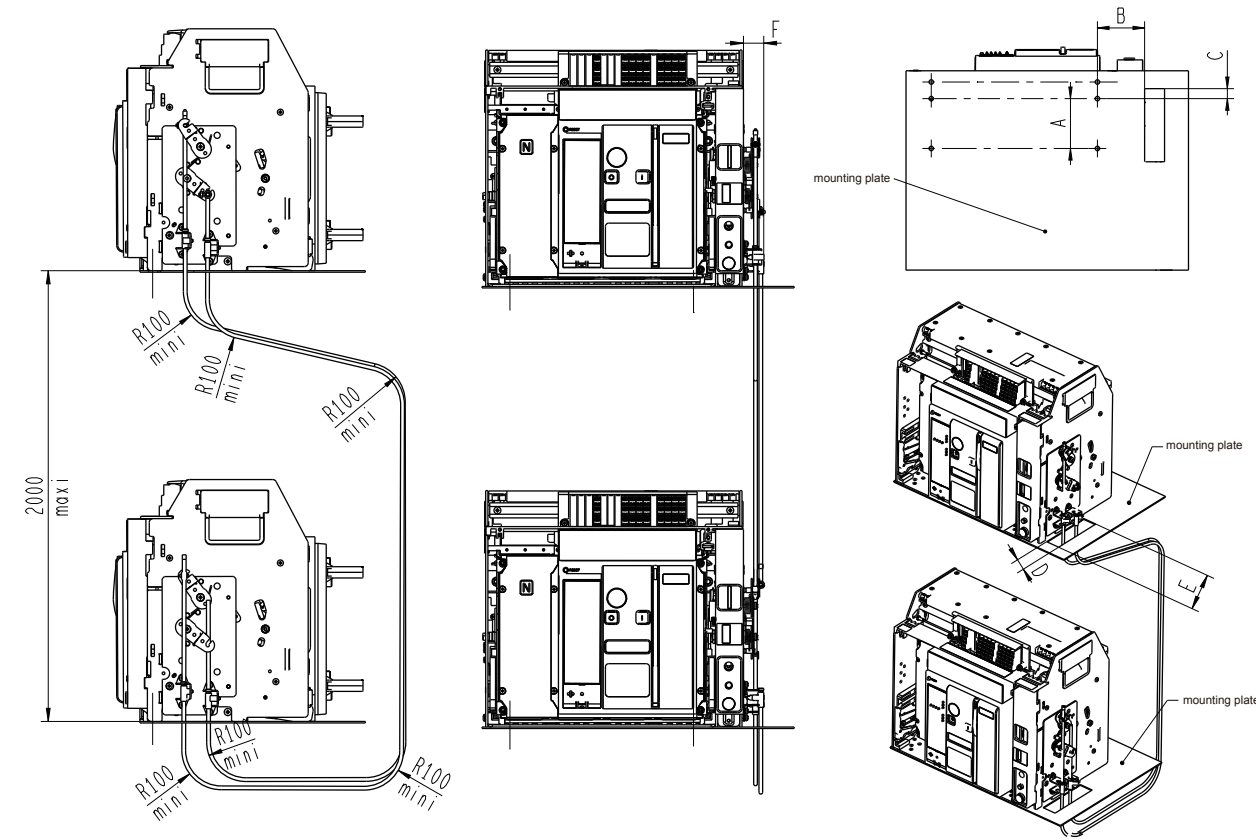
HDW3 ATS Controller



Cable interlock : horizontal



Cable interlock : Vertical



cut off dimension of mounting plate

mm

Frame	A		B		C	D	E	F	
	D/O	Fix	D/O	Fix	D/O & Fix	D/O & Fix	D/O & Fix	D/O	Fix
1600AF	75	75	70	13	25	30	120	28	42
2000AF	175	150	70	13	60	30	180	28	52
3200AF	175	150	70	13	60	30	180	28	52
4000AF	175	124	70	13	60	30	180	40	40
6300AF	175	--	70	--	60	30	180	28	52