



Automatic Transfer Switch



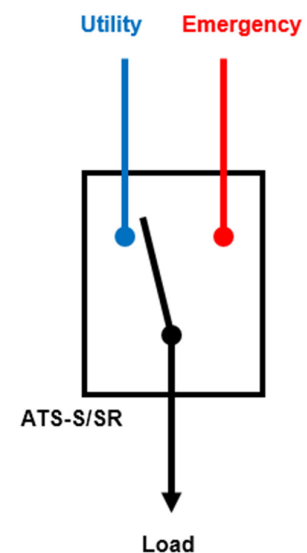
Automatic Transfer Switch designed for
Dual Power Source Networks.

Open transition and closed transition
(make-before-break) option

MH ATS-S / ATS-SR – Open Transition

In the event of main power failure, this system switches power from the primary source (such as utility) to a standby or alternative source (such as a backup generator) automatically.

- Capacity ranges from 60A to 5,000A
- Available in 1P2W, 3P3W, and 3P4W systems
- Suitable for small industries and commercial sectors
- Features a 2 and 3 stage efficient switching system

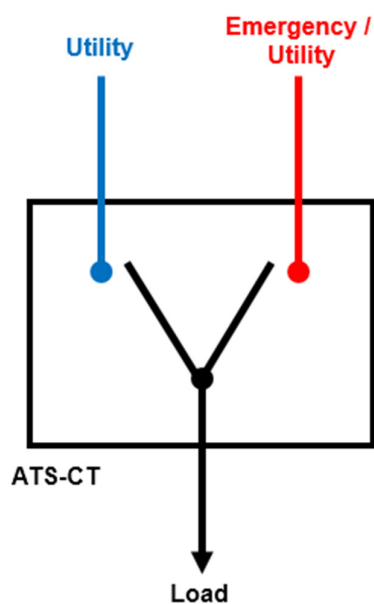
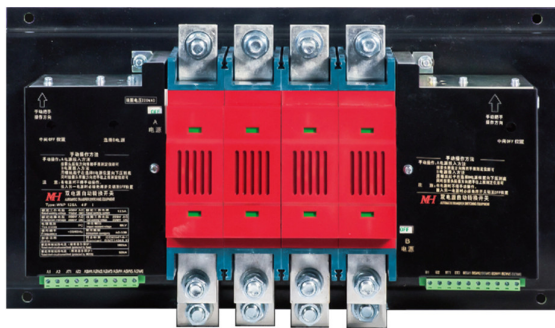


Single Line Diagram of MH ATS-S/SR

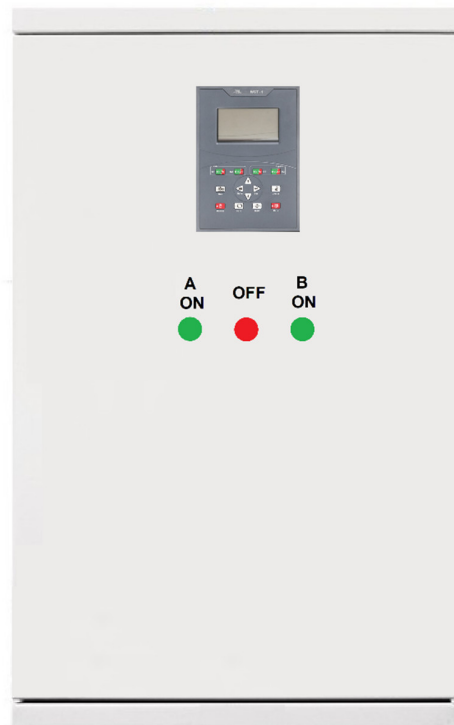
MH ATS-CT – Closed Transition

This system uses a microprocessor-based controller to switch from emergency source to the main after restoration.

- Capacity ranges from 60A to 5,000A
- Available in 1P2W, 3P3W, and 3P4W systems.
- Enables make-before-break transition from alternative supply to main supply
- Suitable for use in electrical systems with primary and alternative power supplies from a utility/backup generator or utility/utility.



Single Line Diagram of MH ATS-CT

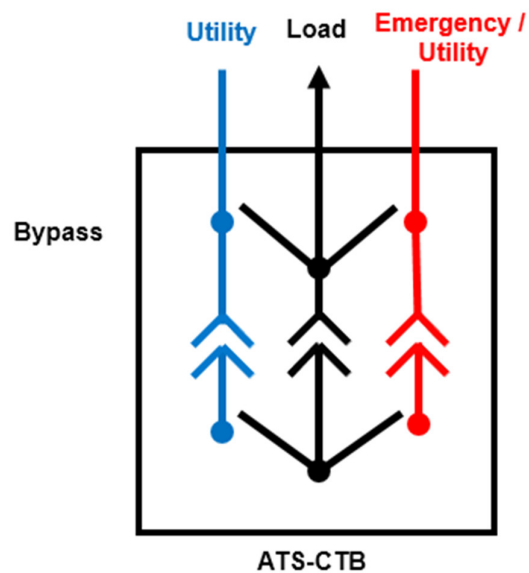


MH ATS- CTB (Closed Transition with Bypass)

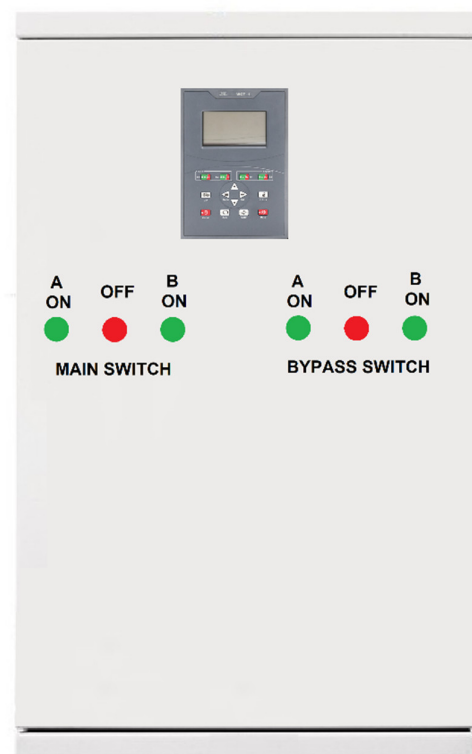
Designed for critical applications such as medical services, data centres, airports and transportation etc.

MH ATS-CTB can be withdrawn for maintenance without disrupting the power supply, ensuring uninterrupted operation. This system ensures that power sources are synchronised before switching power from standby source to primary source.

- Capacity ranges from 60A to 5,000A
- Available in 1P2W, 3P3W, and 3P4W systems.
- Enables make-before-break transition from alternative supply to main supply
- Suitable for use in electrical systems with primary and alternative power supplies from a utility/backup generator or utility/utility.
- Features a built-in external bypass system that can be automatically or manually operated.
- MH ATS-CTB can be withdrawn for maintenance without interrupting the power supply.



Single Line Diagram of MH ATS-CTB





Technical Datasheet

MH ATS SERIES	MH ATS-S	MH ATS-SR	MH ATS-CT	MH ATS-CTB
Specifications				
Rated Operational Current, Ie	60 to 5,000A	60 to 5,000A	60 to 5,000A	60 to 5,000A
Rated Operational Voltage, Ue	400VAC	400VAC	600VAC	600VAC
Rated Insulation Voltage, Ui	400VAC	400VAC	600VAC	600VAC
Rated Impulse Withstand Voltage, Uimp	8kV	8kV	8kV	8kV
Rated Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Poles	2, 3, 4	2, 3, 4	3, 4	3, 4
Main Contact Positions	3 (Normal-Off-Alternative)	3 (Normal-Off-Alternative)	3 (Normal-Off-Alternative)	3 (Normal-Off-Alternative)
Classification	PC	PC	PC	PC
Utilization Category	AC-33B	AC-33B	AC-33B	AC-33B
Switching Mechanism				
Open Transition	Yes	Yes	Yes	Yes
Closed Transition	N/A	N/A	Yes	Yes
Delayed Transition	Yes	Yes	Yes	Yes
Manual Transition	Yes	Yes	Yes	Yes
Non-Automatic Transition	Yes	Yes	Yes	Yes
Automatic Transition	Yes	Yes	Yes	Yes
Bypass Isolation	N/A	N/A	N/A	Yes
Short Circuit Rating				
Rated Short-Circuit Making Capacity	10 x Ie	10 x Ie	10 x Ie	10 x Ie
Rated Short-Time Withstand Current	10 to 50kA	10 to 50kA	10 to 50kA	10 to 50kA
Rated Conditional Short-Circuit Current	25 to 120kA	25 to 120kA	25 to 120kA	25 to 120kA
Controller				
Controller	SCT 6	SCT 5	WCT 1	WCT 1
Settings				
Phase Selection	Single or Three Phase	Single or Three Phase	Single or Three Phase	Single or Three Phase
Normal and Alternative Source	Utility and Utility	Utility and Utility	Utility and Utility	Utility and Utility
	Utility and Generator	Utility and Generator	Utility and Generator	Utility and Generator
	Generator and Utility	Generator and Utility	Generator and Utility	Generator and Utility
Oversvoltage Threshold	275VLN	230 to 280VLN	0 to 330VLN	0 to 330VLN
Oversvoltage Recovery	< 275VLN	< Set point	0 to 330VLN	0 to 330VLN
Undervoltage Threshold	180VLN	170 to 210VLN	0 to 330VLN	0 to 330VLN
Undervoltage Recovery	> 180VLN	> Set point	0 to 330VLN	0 to 330VLN

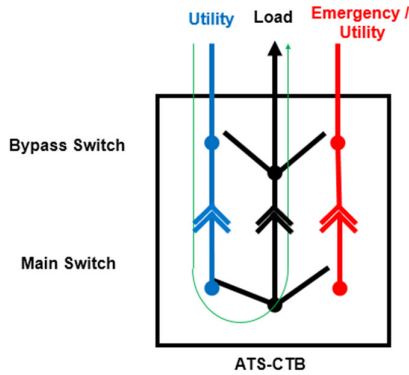


MH ATS SERIES	MH ATS-S	MH ATS-SR	MH ATS-CT	MH ATS-CTB
Frequency	50 or 60Hz	50 or 60Hz	50 or 60Hz	50 or 60Hz
Over Frequency Threshold	N/A	55 to 75 Hz	0 to 75Hz	0 to 75Hz
Over Frequency Recovery	N/A	< Set point	0 to 75Hz	0 to 75Hz
Under Frequency Threshold	N/A	40 to 55 Hz	0 to 75Hz	0 to 75Hz
Under Frequency Recovery	N/A	> Set point	0 to 75Hz	0 to 75Hz
Closed Transition Voltage Difference	N/A	N/A	0 to 50V	0 to 50V
Closed Transition Frequency Difference	N/A	N/A	0 to 0.5Hz	0 to 0.5Hz
Closed Transition Phase Angle Difference	N/A	N/A	0 to 20°	0 to 20°
Time Delay Settings				
Overvoltage Delay	0 to 30s	0 to 30s	0 to 6,553s	0 to 6,553s
Undervoltage Delay	0 to 30s	0 to 30s	0 to 6,553s	0 to 6,553s
Off to Alternative Source Delay	0 to 250s	0 to 250s	0 to 6,553s	0 to 6,553s
Off to Normal Source Delay	0 to 250s	0 to 250s	0 to 6,553s	0 to 6,553s
Generator Start Delay	10 to 250s	10 to 250s	0 to 6,553s	0 to 6,553s
Generator Stop Delay	10 to 250s	10 to 250s	0 to 6,553s	0 to 6,553s
Indications				
Normal Source Available	Yes	Yes	Yes	Yes
Alternative Source Available	Yes	Yes	Yes	Yes
Main Switch Status (Normal, Off, Alternative)	Yes	Yes	Yes	Yes
Bypass Switch Status	N/A	N/A	N/A	Yes
Event Log	N/A	N/A	Yes	Yes
Operating Status (Auto / Non-Automatic)	Yes	Yes	Yes	Yes
Communication				
RS-485 Modbus RTU	Yes	Yes	Yes	Yes
Fire Alarm Input	N/A	N/A	Yes	Yes

Standards Compliance	
Controller:	
Product Safety Requirements	BS EN / IEC 61010-1
EMC Requirements	BS EN / IEC 61326-1
Auto Transfer Switch:	
Product Safety Requirements	BS EN / IEC 60947-6-1

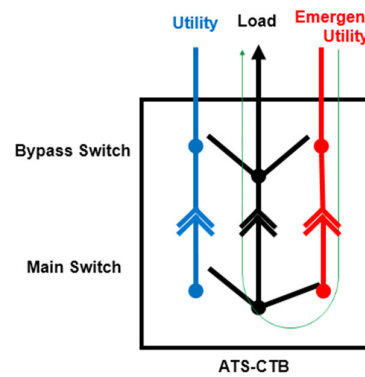
MH ATS- CTB Operational Modes

Normal Mode



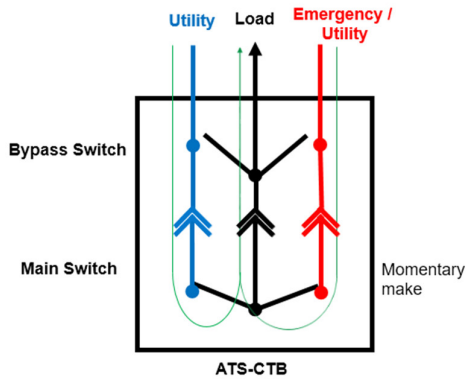
In normal mode, the power supply is supplied from the utility or main source, while the bypass switch remains in the off position.

Emergency Mode



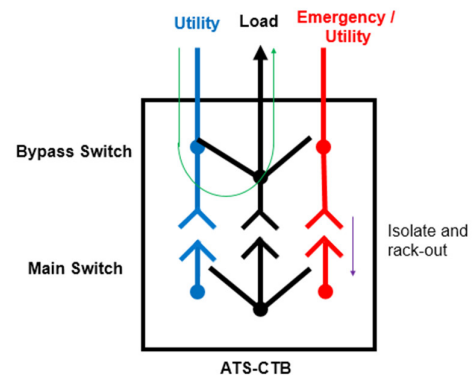
In the event of a main failure, the ATS-CTB switches over to an emergency or alternative power source, while the bypass switch remains in the off position.

Close Transition Mode



When main source is restored, the ATS-CTB switches from the emergency or alternative source back to the utility or main source. During this transition, a synchronous check is carried out. If the check is successful, both the main and alternative sources will briefly operate in parallel, and the emergency or alternative source will subsequently be switched off.

Bypass and Isolation Mode



During maintenance procedures, the bypass switch is activated. Once the main switch is turned off, the power supply is redirected from the utility or main source to the load via the bypass switch. This allows for the main switch to be safely isolated and removed for maintenance purposes.



(Headquarter)

MUN HEAN SINGAPORE PTE LTD
51 Kim Keat Road, Unit 05-01/02
Mun Hean Industrial Building
Singapore 328821
Tel: +65-6250 0522
Fax: +65-6253 6885 / +65-6253 5879
Email: munheansing@munhean.com.sg

MUN HEAN (MALAYSIA) SDN BHD
No. 15, Jalan SS26/6 Taman Mayang Jaya
47301 Petaling Jaya, Selangor Darul Ehsan
Malaysia
Tel: +60 3-7804 2288
Fax: +60 3-7803 1185
Email: munheanmy@munhean.com.my

PT MUN HEAN INDONESIA
Jl. Tanjung Duren Barat 1 No. 27-27A
Tanjung Duren Utara, Grogol, Petamburan
Jakarta Barat 11470, Indonesia
Tel: +62 21-5695 8826
Fax: +62 21-5695 8829
Email: munheanindo@munhean.co.id

MUN HEAN VIETNAM CO LTD
68 Nguyen Quy Duc Street, Quarter 5
An Phu Ward, Thu Duc City,
Ho Chi Minh City, Vietnam
Tel: +84 28-6281 0817 / 0819
Fax: +84 28-6281 0815
Email: munheanvn@munhean.com.vn

MH POWER MYANMAR CO LTD
No. 96 Yadanar Myaing Street
Off Yangon-Insein Road (West Side)
Kamaryut Township, Yangon, Myanmar
Tel: +95 1-505 364
Fax: +95 1-505 364
Email: mhmyanmar@munhean.com

MH POLY-ELECTROMECHS, INC.
11th Floor, CyberOne Bldg,
Eastwood Cyberpark, Brgy. Bagumbayan,
1110 Quezon City, Philippines
Tel: +63-2 8366 8381 / +63-2 8366 8341
Fax: +63-2 8366 8451
Email: mhpoly@munhean.com.ph

MH ELECTRICAL SOLUTIONS CO LTD
5F-3, No. 16, Lane 609
Sec. 5 Chongxin Rd., Sanchong Dist.
New Taipei City 24159, Taiwan R.O.C.
Tel: +886 2-2999 3993
Fax: +886 2-2999 3779
Email: mhes@mh-tw.com

MUN HEAN ELECTRICAL ENGINEERING (HK) CO LTD
Unit 1507-08, 15/F, Westlands Centre
20 Westlands Road, Quarry Bay
Hong Kong
Tel: +852-2873 1711
Fax: +852-2518 7013
Email: munheanhk@munhean.com.hk

MUN HEAN HONG FEI (BEIJING) TECHNOLOGY CO LTD
Room 3-2223, Gold Spring Times
No. 317, Datun Li, Chaoyang District
Beijing 100101, China
Tel: +86 10-8483 9722
Fax: +86 10-8483 9721
Email: mhhf@munhean.com.cn

MUN HEAN POWER TECHNOLOGY (SHENZHEN) CO LTD
Room 2006, MeiLan Business Center
QianJin 2nd Road, Xixiang Street, Baoan District
Shenzhen 518102, China
Tel: +86 755-2778 8081
Fax: +86 755-2778 8083
Email: sales@munhean.cn