LAKESHORE
ELECTRIC CORPORATION

Bypass Isolation Automatic Transfer Switches

Introduction

The Bypass Isolation Automatic Transfer Switch (ATS) allows the MAIN Normal or Emergency Side Insulated Case units to be bypassed for service while still feeding the load via that side's source power. The most standard configuration of this ATS is via four Insulated Case, Draw-out Style, breakers / switches.

Each of these units are interlocked via mechanical interlocks; one set for the MAIN ATS units and one set for the BYPASS Manual Transfer Switch (MTS) units. They are also Kirk Key interlocked for the manual BYPASS MTS units to be operated safely. Due to the nature of this transfer switch, it is not recommended to order it with the Closed Transition Transfer (CTT) option. However, this option is available after engineering review.

Description of Operation

During normal operation on the MAIN ATS side of this transfer switch, the switch will operate as described in the standard Insulated Case Automatic Transfer Switch cutsheet. Either Microprocessor or Electromechanical Controls may be used.

Bypass Operation of this transfer switch requires MANUAL operation. There are four insulated case units present in this transfer switch.

The MAIN NS and ES units are used during automatic operation of the transfer switch.

During manual operation, the Bypass NSB and ESB units are used.

Normal Side Bypass Instructions

This is done when the transfer switch load is being fed via the Normal Power Source and the NS insulated case unit requires maintenance. To operate the manual portion of this transfer switch, remove the kirk key in the ES insulated case units and lock it in the open position. Then use that same kirk key to unlock the Normal Side Bypass (NSB) insulated case unit.

Pull down on the NSB charging handle until the unit is primed for operation. Press the "Push to Close" button on the NSB. This has now connected the load in parallel to the Normal Side Power Source.

Now push the "Push to Open" button on the NS insulated case unit. The NS unit has now been completely bypassed and the load is being fed via the Normal Source Power thru NSB.

The NS unit is now ready to be racked out for maintenance. Reverse these instructions to return the transfer switch to automatic operation.

Emergency Side Bypass Instructions

This is done when the transfer switch load is being fed via the Emergency Power Source and the ES insulated case unit requires maintenance. To operate the manual portion of this transfer switch, remove the kirk key in the NS insulated case units and lock it in the open position. Then use that same kirk key to unlock the Emergency Side Bypass (ESB) insulated case unit.

Pull down on the ESB charging handle until the unit is primed for operation. Press the "Push to Close" button on the ESB. This has now connected the load in parallel to the Emergency Side Power Source.

Now push the "Push to Open" button on the ES insulated case unit. The ES unit has now been completely bypassed and the load is being fed via the Emergency Source Power thru ESB.

The ES unit is now ready to be racked out for maintenance. Reverse these instructions to return the transfer switch to automatic operation.

Product Features

- Bypass Isolation
- 800 thru 4000 Ampere, 100% Rated Equipment
- Standard Operating Voltages (See Bypass Isolation ATS Order Guide)
- Electromechanical or Microprocessor Based Controls
- Phase Failure Relay on Normal (PFRN)
- Standard Features: MDS, LTS, ORPB, KPE and PE
- Keyed or Padlock Handle Provided
- Free Standing (F/S) Enclosure
- NEMA 1, 3R, 4, or 4X Std.; NEMA 3R or 4X Stainless Steel
- Front or Rear Accessible
- Safe Manual Transfer Under Load
- Aux Contacts for Switch Position, System Trouble and Engine Start
- Space Heaters Included with any Outdoor Equipment

Factory Options

- SE - Service Entrance
- ED - Emergency Disconnect Switch on Door
- GFP - Ground Fault Protection
- PFRE - Phase Failure & Undervoltage Relay on Emergency Source
- DPS - Dual Prime Source
- CBT(N or E)Circuit Breaker Trip on Normal and/or Emergency
- CTT - Closed Transition Transfer
- ACBT - Aux Contacts Before Transfer (Elevator Controls)
- ACSA - Aux Contacts for Source Available
- SPD - Surge Protection Devices by Description
- SPP - Single Phase Protection
- PS - Peak Shave
- LDI - Load Demand Inhibit
- RD - Remote Disconnect
- MLT - Maintained Load Test Switch
- MRTN - Manual Return to Normal
- MFM - Multifunction Metering
- BC - Battery Charger System, 12Vdc only
- SH - Space Heaters
- Custom Controls per Customer Spec

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Bypass Isolation ATS Order Guide

IC	-	-	-	----	-	-	-	-	/X	/X	/X	/X	/X	/X	/X	/X	/X	/X	/X	/X

OPERATOR
- D = Draw Out
- F = Fixed

CONTROL BASE
- A = Automatic

NUMBER OF POLES
- 2 = Two Poles
- 3 = Three Poles
- 4 = Four Poles

AMPACITY
- 0800 = 800 Amps
- 1200 = 1200 Amps
- 1600 = 1600 Amps
- 2000 = 2000 Amps
- 2500 = 2500 Amps
- 3000 = 3000 Amps
- 4000 = 4000 Amps

VOLTAGE

A	=	120/240	1 ϕ	3 W	60 Hz
B	=	120/208	3 ϕ	4 W	60 Hz
C	=	277/480	3 ϕ	4 W	60 Hz
D	=	120	1 ϕ	2 W	60 Hz
E	=	127/220	3 ϕ	4 W	60 Hz
F	=	240	3 ϕ	3 W	60 Hz
G	=	120/240	3 ϕ	4 W	60 Hz
H	=	220/380	3 ϕ	4 W	60 Hz
I	=	380	3 ϕ	3 W	60 Hz
J	=	440	3 ϕ	3 W	60 Hz
K	=	480	3 ϕ	3 W	60 Hz
L	=	240/415	3 ϕ	4 W	60 Hz
S	=	Custom Voltage (Please Specify)			

CONTROLS
- P = Microprocessor Controls 24Vdc
- M = Microprocessor Controls 12Vdc
- E = Electromechanical Controls

INTERRUPTING RATING
- S = Standard Rating = 65kAIC @ 480VAC
- H = High Rating = 100kAIC @ 480Vac
- V = Very High Rating = 150kAIC @ 480Vac
- ** kAIC Ratings Higher @ 240VAC (Consult Factory Rep)**

ENCLOSURE
- B = NEMA 1 Free Standing
- D = NEMA 12 Free Standing
- F = NEMA 3R Free Standing
- H = NEMA 4 Free Standing
- J = NEMA 4X Free Standing
- L = NEMA 3R Free Standing (304 or 316 Stainless Steel)
- O = Open Style (no enclosure)
- X = Special (by description)

USE FOR REQUIRED FACTORY OPTIONS

Part Number Example: ICDA2000CPSF / BP / SE / ED / CBTE / ACSA / SH (Bypass Isolation, Insulated Case, Draw Out Style, Automatic Operation, 2000Amps, Microprocessor Controls 24Vdc, 277/480Vac, 65kAIC@480Vac, NEMA 3R Free Standing Enclosure. **Factory Options Requested:** Service Entrance Rated, Emergency Disconnect Switch on Door, Circuit Breaker Trip on Emergency, Aux Contacts for Source Available and Space Heaters.)

Recommendations

If the load does not have to be fed via the same source during maintenance, Lake Shore Electric recommends using the standard Draw-Out Style Insulated Case ATS in place of the Bypass Isolation ATS. The Standard IC ATS may be ordered with CTT to prevent interruption of power to the load if that is the only issue. Please consult the factory for further information on equipment outside the standard or other, more cost saving packages.

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